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Assessment of the impressions of Station Personnel on the Effectiveness and Suitability of the 47-Foot Motor Life Boat (MLB)

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EXECUTIVE SUMMARY

The Coast Guard is in the process of evaluating a new 47-Foot Motor Life Boat (MLB) to replace the aging 44-Foot MLB. As part of the Operational Test and Evaluation (OT&E), survey and small group discussions were conducted to assess crew impressions of the suitability and effectiveness of the new vessel at performing MLB mission requirements (search and rescue, law enforcement, boating safety, etc.). A survey was developed to capture crew ratings of various aspects of boat operations and handling (e.g., Surf Operations, Towing, Personnel Recovery, Maintenance, etc.). The survey consisted of three sections:

- background information (age, gender, rate, experience with the 47-Foot and 44-Foot MLBs, etc.)
- comparison of the 47-Foot MLB with the "ideal" MLB vessel on aspects of boat operations and handling, and
- comparison of the 47-Foot MLB with the 44-Foot MLB on aspects of boat operations and handling

Small group discussions were conducted to supplement the information collected with the survey, as well as offer an opportunity for crew members to reveal deficiencies not addressed in the survey. Problem areas and "wish list" items, items crew members desired to have included in the current design, were identified and discussed in the small group setting.

One hundred and twenty crew members from five small boat station evaluation sites, representing unique operational and environmental conditions, participated in the evaluation. Participation was limited to crew members with experience on both the 47-Foot and 44-Foot MLBs. The crew sample was well represented by a range of rates, ranks, and experience levels.

In general, the results of the survey revealed that the 47-Foot MLB received consister by superior ratings for both the "ideal MLB" and the 44-Foot MLB comparisons. The only exception was firefighting capability, where the 47-Foot MLB showed less favorable capabilities. However, supplemental information, as well as the small group discussions, revealed nine areas which require significant enhancements to improve the effectiveness and suitability of the 47-Foot MLB. These areas include:

- Steering and throttles
- * Communication equipment
- D-rings and handholds
- Navigation area
- Seating

- Head (bathroom)
- Maintenance
- HVAC system
- Eirefighting equipment

Three general conclusions are drawn based upon the body of results from the 47-Foot MLB crew surveys. The new 47-Foot MLB:

- represents a significant improvement over the 44-Foot MLB.
- is considered near the "ideal" MLB vessel but does have considerable room for improvements in some areas (notably the nine highlighted earlier).
- will be an effective and suitable replacement for the 44-Foot MLB, particularly after the identified issues for improvement are addressed.

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1.0 INTRODUCTION

The acquisition of the new 47-Foot Motor Life Boat (MLB) includes a one-year Operational Test and Evaluation (OT&E) period. In support of the OT&E, a research effort was conducted to assess the operational suitability and effectiveness of the new vessel design for performing MLB mission requirements. Survey and small group discussions were conducted with station crew members to assess crew impressions of how well the 47-Foot MLB performs MLB duties. This report presents the results of the survey and small group discussions.

1.1 Operational Test & Evaluation Process

The United States Coast Guard (USCG) is in the process of evaluating a new 47-Foot MLB to replace the aging fleet of 44-Foot MLBs, which have been the service's primary heavy-weather rescue craft for the past 29 years. To ensure that the new boat meets or exceeds CG specifications and needs, an extensive evaluation of the new design has been underway since the Fall of 1990. The process began with the evaluation of a prototype 47-Foot MLB. The prototype evaluation revealed a number of deficiencies that could compromise crew safety and performance. Engineering change proposals (ECP) were generated to correct the deficiencies and incorporated into the design of five 47-Foot MLB pre-production vessels. The pre-production vessels will be used to conduct a one-year OT&E to evaluate all aspects of the boat during both normal station operations and structured, scenario-based tests. In support of the OT&E, the present effort evaluates the operational suitability and effectiveness of the 47-Foot MLB for performing MLB missions.

1.2 Mission of the 47-Foot MLB

USCG MLBs operate in very challenging environments. To meet these challenges, the new 47-Foot MLB has been designed to operate in 20-foot breaking seas and have self-righting capability (if accidentally capsized). The 47-Foot MLB also has many enhanced features over the 44-Foot MLB, including increased speed, different motion characteristics, and an enclosed bridge to protect crew members from harsh environments. The 47-Foot MLB requires a crew of four and has a nominal 200 nautical mile range. The boat also has been designed to operate for over nine hours at a sustained top speed in excess of 25 knots. Although the 47-Foot MLB's primary mission is search and rescue, it must be able to perform all small boat mission requirements which include: environmental response, enforcement and large and treaties, boating safety, port safety and security, and aids to navigation. The 47-Foot MLB's mission and capability requirements provided the basis for the survey given at the five stations.

1.3 Purpose

The purpose of the present effort was to assess the impressions of CG crew members on the operational suitability and effectiveness of the 47-Foot MLB for performing various mission-related duties. Survey and small group discussions were used to collect crew impression data. The goals of this report are to document the results of the survey and small group discussions. Above all, this report will attempt to identify and define deficiencies with the current 47-Foot MLB that could compromise crew safety and ability to perform MLB mission requirements.

2.0 METHOD

2.1 Subject Crew Members

In order to control and assess the impact of environmental and operational conditions, five small boat stations, with unique environmental and operational characteristics, were selected as OT&E sites. Two of these stations were located on the West coast and three stations on the East coast. The five stations involved in the OT&E were:

- Station Tillamook, Garibaldi, OR
- Station Umpqua River, Reedsport, OR
- · Station Gloucester, Gloucester, MA
- · Station Cape May, Cape May, NJ
- · Station Oregon Inlet, Rodanthe, NC

In all, 120 crew members from the above stations participated in this evaluation. Table 1 presents the demographic information of the crew population as well as their experience with the 44-Foot and 47-Foot MLBs. Six reservists from Station Gloucester completed only the small group discussion portion of the survey (described later in 2.2). These reservists were included, as they were fully qualified on the 47-Foot MLB and often serve with (or in place of) active duty crew members on the 47-Foot MLB.

Table 1. Crew member characteristics and experience

Station	N	Mean Agr:	Ymm in USCG	Hourn Week on 47-Foot MLB	Comm St	ost ion Ses ute feet)	Sea	Jevene State (cet)	Mi Le	erage islon ngth iours)	Mis	igest islon ours)
					44. Foot	47- Foot	44- Foot	47- Foot	44- Foot	47- Foot	44. Foot	47. Foot
Oregon Inlet	20	27	7	6	5	3	13	9	5	4	12	7
Tillamook	23	29	8	7	5	5	18	12	3	2	15	4
Umpqua River	22	27	6	10	6	6	17	9	4	3	14	6
Gloucester	14(6)	26	5	11	5	4	18	17	4	3	8	7
Cape May	35	27	6	8	5	4	11	9	3	2	8	6
Overall	114(6)	27	7	8	5	4	15	12	4	3	11	6

Note: N corresponds to the number of crew members at each station. The number of reservists, in addition to station personnel, is indicated in parentheses.

Crew members represented a range of rates and ranks who were either fully qualified on the 47-Foot MLB or were close to qualifying (generally only awaiting documenting letters). Table 2 shows the number of crew members in each rank by rate. In Appendix A more detailed crew member rank

information for each station may be found. More detailed operational experience redomnstion for each station by crew member rate can be found in Appendix B. Appendix C provides more detailed crew characteristic information for each station by crew member rate.

Table 2. Number of crew members in each rank by rating across all stations.

EVIR AND MAN TO THE PROPERTY OF THE PERSON O			TINC	(1974年) 1985年 -
	Seames	Boatswain's Mates	Engineers & Firemen	Total
Seamen				
E-2: Apprentice	5	***	1	6
E-3: Seaman & Fireman	29		6	35
Petry Officers				
E-4: 3rd Class	_	15(1)	14(1)	29(2)
E-5: 2nd Class	1 MST	14(3)	6(1)	21(4)
E-6: 1st Class	apeta.	8	4	12
Chiefs				
E-7: Chief		5	2	7
E-8: Senior Chief		1	0	1
E-9: Master Chief		1	0	1
Warrant Officers				
W-1: Warrant Officer		0	0	0
W-2: Chief Warrant Officer		2	0	2
Total	35	46(4)	33(2)	114(6)

Note: The number of reservists, in addition to station personnel, is indicated in parentheses.

2.2 Survey Materials

The data collection materials used in this study were a combination of a survey and small group discussions. These methods are described below in Sections 2.2.1 and 2.2.2.

2.2.1 Operational Focal Point (OFP) Survey

A survey was developed to capture crew impressions of the 47-Foot MLB on a number of boat operations and handling issues. These operations and handling issues, known as Operational Focal Points (OFP), were compiled with the assistance of the 47-Foot MLB test team crew at the National Motor Life Boat School in Ilwaco, WA. The survey addressed a total of 17 OFPs aimed at all facets of boat operations, maintenance, and handling. In addition, 6 specific small boat

station mission categories (search, rescue, maritime law enforcement, port safety and security, marine environmental response, and recreational boating safety) were included to provide more detailed information not available from the primary "mission" OFP rating. Crew members were asked to rate the mission OFP and then to rate each of the specific mission categories. Table 3 presents the complete list of the 17 OFPs and the 6 additional mission categories. To simplify the reporting of the results, the OFPs Heavy Weather Operations through Maintenance (In Port) are referred to as "Capability Focal Points". The mission OFP as well as the 6 specific mission categories are referred to as "Mission Focal Points.

Table 3. List of Operational Focal Poi
--

OPERATIONAL FOCAL POINTS
Heavy Weather Operations
Calm Weather Operations
Surf Operations
Towing (Aft)
Towing (Alongside)
Personnel Recovery
Piloting/Navigation
Mooring
Anchoring (Own Boat)
Anchoring (Other Boat)
Firefighting (Own Boat)
Firefighting (Other Boat)
Alangside Operations
Helicopter Operations
Maintenance (Underway)
Maintenance (In Port)
Mission
Search
• Rescue
Maritime Law Enforcement
Port Safety and Security
Marine Environmental Response
 Recreational Boating Safety

The OFP survey materials were divided into three sections: background, 47-Foot MLB comparisons with an ideal MLE vessel, and 47-Foot MLB comparisons with the 44-Foot MLB.

- * Background -- The first section collected demographic information about the crew member completing the survey (e.g., rate, rank, experience on 44- and 47-Foot MLB's, etc.).
- Current 47-Foot MLB compared with Ideal MLB -- The second section asked crew members to evaluate, using a 100 point scale (Appendix D), the suitability and effectiveness of the 47-Foot MLB relative to an ideal MLB vessel for each of the OFPs. Crew members were asked "how well does the 47-Foot MLB compare to the ideal MLB on each of the OFPs?" Crew members were instructed that "...100 means that the current MLB represents the ideal MLB on a particular OFP (i.e., 100%), 50 means half of the ideal (i.e., 50%), and so forth." Each crew member used his or her own perceptions of an ideal MLB to make the evaluations. This type of rating represents a direct estimation method that has elsewhere proven valuable for rapid evaluation of responses to physical and other aspects of systems (e.g., Stevens, 1975; Morrissey, Bittner & Archangli, 1990).
- 44-Foot MLB compared with Current 47-Foot MLB -- The third section asked crew members to directly estimate the relative effectiveness and suitability of the 44-Foot and 47-Foot MLBs with regard to each of the OFPs. The response range included a central neutral point (where the 44-Foot and 47-Foot MLBs are equal) with separate ranges to the left and right of the neutral designating the relative superiority of the 44-Foot or 47-Foot MLBs with respect to a specific OFP (Appendix D). The 44-Foot v. 47-Foot MLB relative judgments used a direct estimation method that has proven valuable for rapid evaluation of responses to systems (Stevens, 1975; Morrissey et al., 1990).

The comparisons of the 47-Foot MLB against the ideal MLB provided an absolute assessment of suitability and effectiveness. The results from the absolute comparisons are useful for judging the potential for improving the current 47-Foot MLB design. The comparisons of the 47-Foot MLB against the 44-Foot MLB provided a relative assessment of the suitability and effectiveness. The results of the relative comparisons (47-Foot MLB v. 44-Foot MLB) are most important when judging suitability of the 47-Foot MLB to replace the 44-Foot MLB. Appendix D contains examples of the rating scales used in the OFP survey and additional details that explain the survey process

2 2 2 Small Group Discussion List

The Small Group Discussion List (Appendix E) addresses "problem areas" and "wish list" items. These items were identified during preliminary small group meetings (see section 2.3.1 for a

complete discussion on the development of the small group discussion list). The discussion list organizes problems and wish list items by areas of the (e.g., chocks and bitts in the deck area). In general, problems and wish list items are unique to areas on the boat. In some cases, however, item such as HVAC and deck plates occur in several areas. Crew members were asked to evaluate each item using a 6-point scale where 0 indicated that the item was not a problem (or did not need to be added) and 5 indicated that the item was a big problem (or definitely should be added to the boat). This type of scale was used because it was easy to understand, took little time to use, and provided a quantitative measure of the importance of the items. Blank spaces were provided for crew members to add items to the list or to write detailed comments, if they chose.

2.3 Procedure

2.3.1 Refinement of Methodology

The operational suitability and effectiveness evaluation was conducted in two phases: the first (Phase I) shortly after the delivery of the boats (January and February of 1994) and the second (Phase II) several months later (May and June of 1994). Earlier evaluations of a 47-Foot MLB prototype had revealed numerous deficiencies which could compromise crew safety and performance. Because of concerns that all major deficiencies had not been identified during the prototype evaluations, as well as potential deficiencies resulting from changes to the preproduction vessels, a preliminary evaluation was scheduled to be performed shortly after the delivery of the 47-Foot MLBs. The purpose of this phase of the evaluation was to identify major deficiencies with the 47-Foot MLB that would require immediate attention before crew safety was compromised. However, due to boat delivery delays, only three stations had sufficient operational experience to participate in this Phase of the evaluation. The goals of Phase I were: 1) to detect early the deficiencies that might require immediate adjustments to ensure crew safety and meet mission needs; 2) to test measurement techniques to ensure they are reliable and sensitive; and 3) to identify deficiencies or areas of concern which may require more detailed investigation in Phase II. Analysis of the Phase I data revealed: 1) no significant deficiencies which required immediate attention; 2) the measurement techniques were reliable and sensitive to fluctuations in factors associated with suitability and effectiveness issues; and 3) potential deficiencies and areas of concern to emphasize in Phase II.

Since the measurement techniques were reliable, sensitive, and accepted by crew members, only minor adjustments were made for Phase II. One significant change in Phase II was the use of rating scales to capture small group discussion concerns. During Phase I, small group discussions were conducted to provide an informal, unstructured, venue for crew members to express concerns about the 47-Foot MLB and ideas for change. In order to stimulate discussion, crew members were provided with a blank piece of paper and asked to list items they would like to see changed on the 47-Foot MLB. They were told to 1) list changes by priority, and 2) assume that any changes they listed would be made. The latter point was made so crew members would be more likely to list all problems, not only those they thought likely to be changed. Crew members

were encouraged to focus on design-related issues necessary for safer and/or more effective accomplishment of missions (rather than logistic or other operational issues). Once an ample time period had elapsed, crew members took turns reading the contents of their lists. Free and open discussion was encouraged throughout the reading of the lists. The often-lively and revealing discussion not only provided detailed aspects of list items but also produced solutions to deficiencies.

Although the small group discussions produced valuable information, the informal nature of the data collection did not allow for easy quantification of the data. Also, it became evident that the list of items was very similar between groups. For these reasons, items specific to given areas on the boat were compiled into a list and a rating scale was generated (2.2.2). Blank lines were provided at the end of each section for crew members to supplement the list if necessary. By using this list the small group discussion was simplified by not having crew members generate their own lists, and allowing for quantification of verbal responses.

The small group discussion list was the only significant difference between Phase I and Phase II methodologies. The following sections describe the methodology used in both phases of data collection.

2.3.2 Crew Briefing

Researchers met with crew members to discuss the purpose and objectives of the study and to answer questions prior to data collection. The researchers informed the crew members of the purpose of the survey, told them how the survey was composed, and provided general directions on how to complete each section of the survey. Typically, crew members participated during their regular work days as part of their assigned daily duties. Crew members were informed that their identity and responses would be confidential and anonymous. Crew members' responses were assigned code numbers to ensure confidentiality and anonymity.

2.3.3 47-Foot MLB Absolute and Relative Comparisons

The 47-Foot MLB v. ideal MLB comparisons were completed first and the 47-Foot MLB v. 44-Foot MLB comparisons were completed second. Crew members were instructed to rate each of the OFPs and provide an estimate of the number of hours of experience performing each OFP on both the 47-Foot and 44-Foot MLB. Depending on their ratings of the main OFPs, crew members would be asked to provide more detailed information. If crew members rated the 47-Foot MLB less than 75% of the ideal MLB, they were asked to complete detailed questions related to the specific OFPs. They were also requested to describe in writing 1) the nature of, or the "deficiency" leading to the rating, and/or 2) an engineering change to improve the 47-Foot MLB's design, if they had any ideas for improvements. The cutoff of 75% was chosen to focus on the most significant problem areas and to reduce the amount of time needed to complete the survey.

A similar procedure was followed in the survey section that directly compared the 44-Foot MLB with the 47-Foot MLB. However, detailed responses were only requested when the 44-Foot MLB was rated 40% or higher than the 47-Foot MLB (Appendix D

2.3.4 Small Group Discussions

Group composition varied but typically consisted of 4 to 7 crew members of similar rank. At the beginning of the discussion, the group was reminded that the purpose of the visit was to collect crew comments and recommendations to improve the design of the current 47-Foot MLB. The group was thanked for participating in the OFP survey but noted that the survey process may not have captured all of their concerns and ideas. For that reason, they were given an opportunity to present information which, in their opinion, should be considered during the OT&E. In order to stimulate discussion, the "problem area" and "wish" list developed in Phase I were distributed to each of the small group participants.

The group was asked to rate each item on the list using the 0 to 5 scale provided. They also were asked to add any additional items that they felt needed attention. Typically, crew members were asked to rate one or two sections of the list and followed by discussions of the ratings. Only the higher rated items (ratings of 3, 4, and 5) were discussed in order to focus on what crew members perceived to be the most important issues and to reduce data collection time. Crew members were asked to explain the deficiency(ies), and whether they had any solutions for correcting the deficiency(ies). The same process was repeated until the last item on the list was completed.

3.0 RESULTS

Given the limitations with Phase I data collection -- limited experience of crew members and untested measurement techniques -- the Phase I data are deemed preliminary and will not be discussed in much detail. The following discussion will focus on the results from Phase II of the evaluation. Survey results are presented in this section. These results are organized in three sections:

- Comparisons for the current 47-Foot MLB with the ideal MLB (3.1)
- Comparisons for the 47-Foot and 44-Foot MLBs (3.2), and
- Small group discussion results (3.3).

As described earlier (2.2.1), the OFP survey comparison results will be presented in two categories. The first category includes the overall "Mission" OFP and the 6 specific mission categories (Mission Focal Points). The second category contains the remaining OFPs (Capability Focal Points). See Table 1 for the complete list of OFPs and mission categories

Summary data and statistical analyses were calculated for the OFPs, both across and within stations, using a standard statistical software package (SPSS/PC+). Analyses were based on repeated-measures analysis of variance (RANOVAs) conducted on OFP means by station and by crew member (occupational) rate (see Bramwell, Bittner, & Morrissey, 1992, for a discussion of RANOVA). Results are considered in terms of the main effects of:

- Operational Focal Points, and
- Station differences

3.1 Current 47-Foot MLB Compared with Ideal MLB

This section describes the results of the 47-Foot MLB compared with the ideal MLB. For this data, values of 100 indicate that the current 47-Foot MLB is ideal; while, values less than 100 indicate that the current 47-Foot MLB is proportionately less than ideal (e.g., a value of 50 means that it is half of ideal). Appendix F contains summaries of the data used in this section.

3.1.1 Mission Focal Points

Overall ratings for the mission-related OFPs (2.2.1) across stations and crew member ratings are illustrated in figure 1. As can be seen, the current 47-Foot MLB is considered to be relatively well-suited for its missions. Indeed, all mission ratings are greater than or equal to 80 percent. The mission ratings, though appearing relatively flat, differ statistically ($p \le .0002$). This is largely because the overall Mission OFP rating, as well as the specific mission ratings for Search and Rescue tend to be larger than those for the other specific mission ratings. Of note, the overall Mission OFP rating appears to be most heavily influenced by the Search ratings and Rescue ratings (the remaining specific mission ratings contribute less to the overall Mission OFP rating). This is not an unusual pattern for overall judgments where some components constitute the majority of global ratings and other components contribute to the overall judgment to a much lesser extent.

The patterns of mission ratings at each of the individual stations can be seen to be generally consistent with the pattern across stations (see figures 1-1 to 1-5). However, the average mission ratings at the stations differ significantly ($p \le .025$). Station Oregon Inlet's mission ratings, for example, tended to be lower than other stations; while, Cape May's ratings were highest (cf., figures 1-1 and 1-5). These tendencies were not surprising due to the different environmental challenges at the two stations. Conditions at Station Oregon Inlet, in addition to narrow and shallow access channels, frequently include complex, broken surf and continuous moderate to high winds. Consequently, 47-Foot MLB sail effects and initial steering/throttle problems, together with a deeper draft than the 44-Foot MLB, present particular challenges. Cape May, in contrast, can be characterized by its relatively wide and deep access and relatively minimal surf conditions.

Interactions of stations with specific mission OFPs may also appear to be present in the individual station results. These apparent interactions are reflected in the figures 1-1 through 1-5 by some stations appearing to have widely different mean ratings for some of the OFP means than other stations. For example, Station Gloucester has relatively lower evaluations of Maritime Law Enforcement than the other stations. This might be reasonably attributed to difficulties associated with boarding fishing boats from 47-Foot MLBs when nets are in the water (in contrast with boarding from the lower-profile 44-Foot MLBs). However attractive these kinds of interpretations appear, they cannot be justified on a statistical basis as the station-by-focal-point interactions were not statistically significant (p > .11). Thus, only small average differences distinguished the station ratings of the OFPs, although they may have appeared to be large.

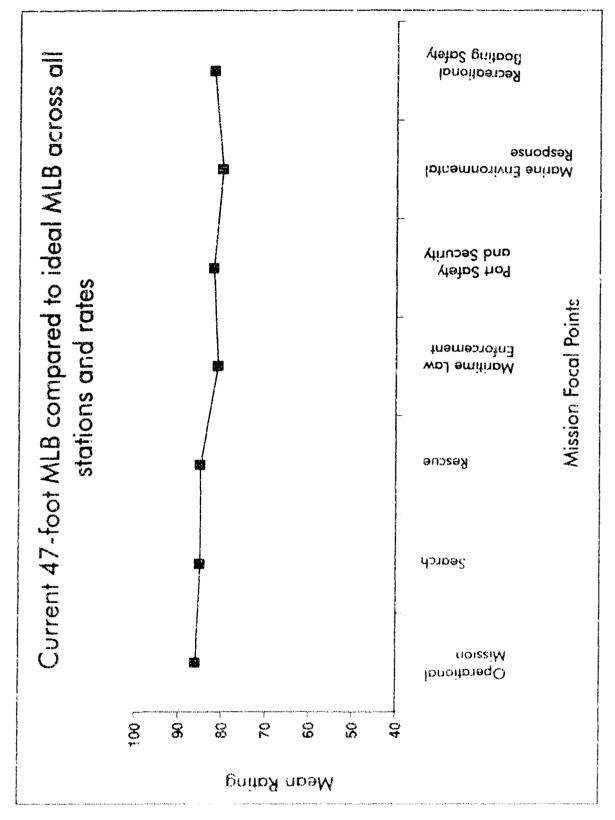


Figure 1. Mission focal points for the 47-Foot MLB compared with the ideal MLB across all stations and rates.

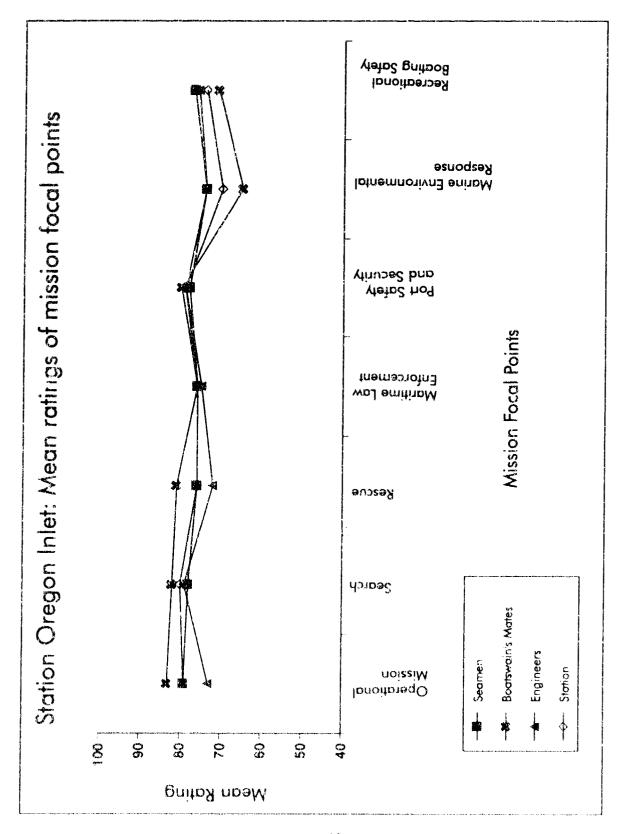


Figure 1-1. Station Oregon Inlet: 47-Foot MLB compared with the ideal MLB mean ratings of mission focal points.

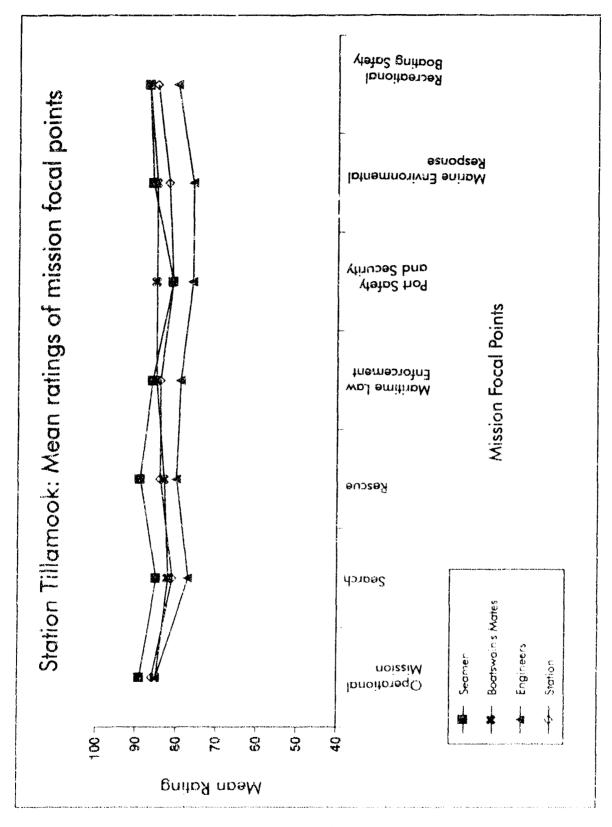


Figure 1.2. Station Tillamook: 47-Foot MLB compared with the idea; MLB mean ratings of mission focal points.

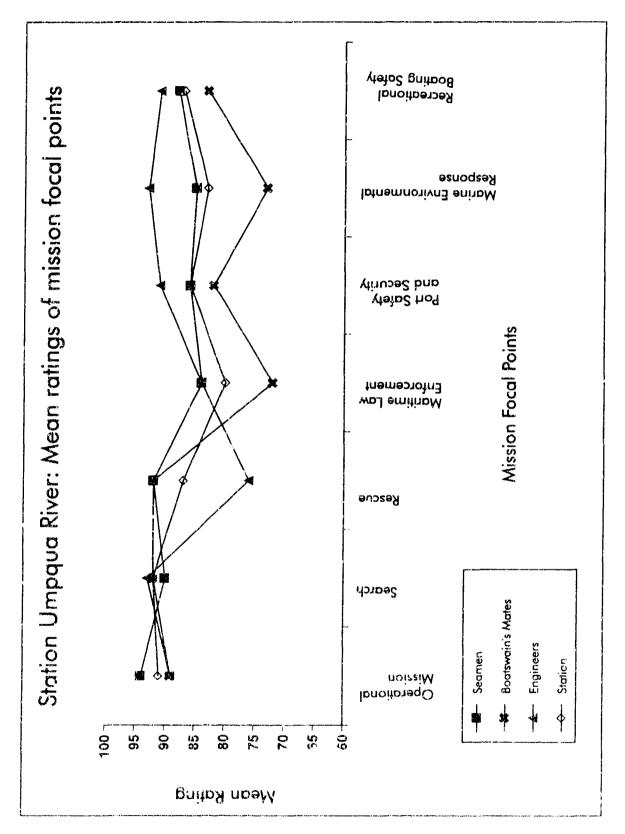


Figure 1-3. Station Umpqua River: 47-Foot MLB compared with the ideal MLB mean ratings of mission focal points.

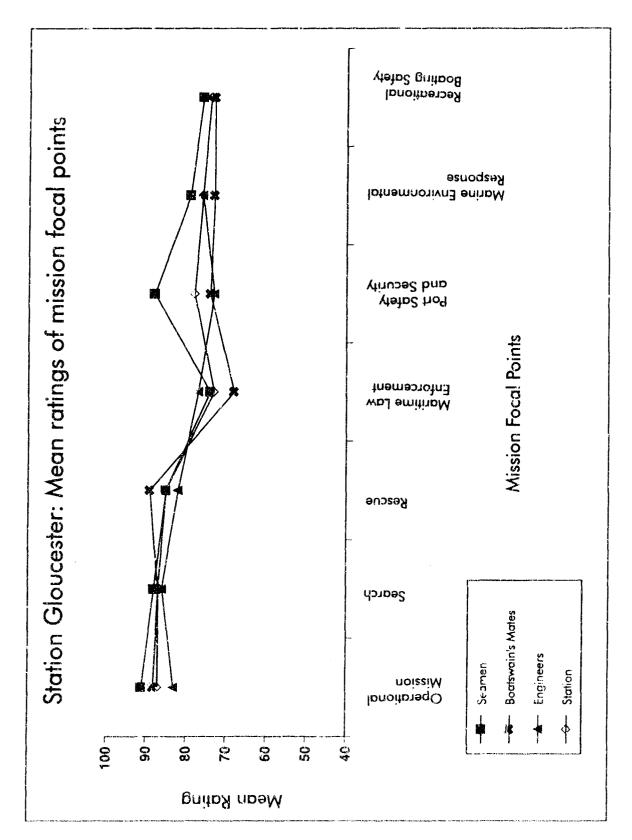


Figure 1-4. Station Gloucester: 47-Foot MLB compared with the ideal MLB mean ratings of mission focal points.

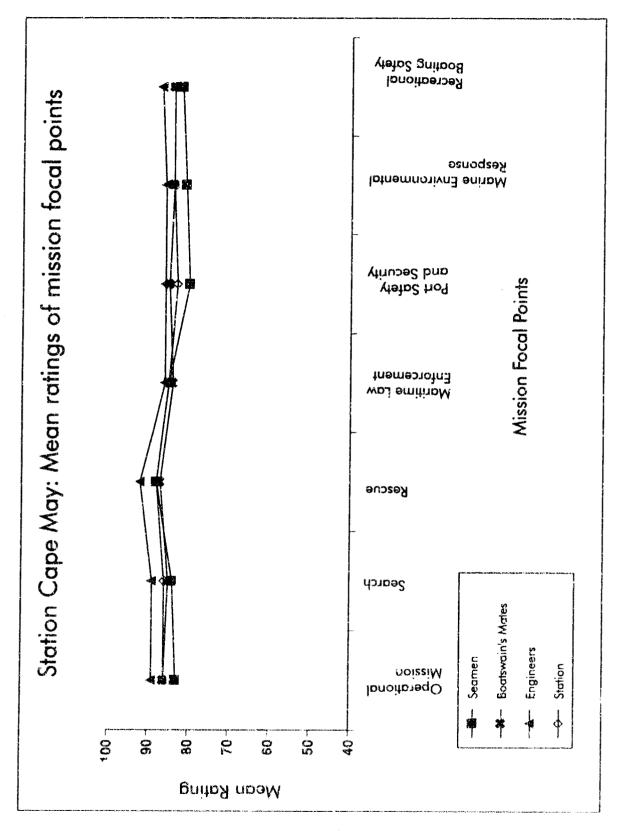


Figure 1.5. Station Cape May: 47-Foot MLB compared with the ideal MLB mean ratings of mission focal points.

3.1.2 Capability Focal Points

Figure 2 shows a general consistency for all capability-related OFPs (2.2.1) to be rated high. More specifically, most of the OFPs have mean ratings greater than or equal to 80 percent of the ideal. This indicates that the vessel is generally perceived as being very satisfactory, but there is still room for improvement for specific points. However, as could be predicted from the figure, there are significant variations in the capability focal point ratings ($p \le .0002$). Firefighting (Own Boat) and Firefighting (Other Boat) are the most striking examples of operations in which the boat is rated as less than ideal. The relatively high capability ratings across stations are consistent with and support the mission ratings described earlier

Figures 2-1 through 2-5 present the results for the capability-related focal points by station and rate. Generally, these individual station results are consistent with the results across stations (figure 2). However, as with the earlier mission results, stations significantly differed in their mean values (p < .02). Station Oregon Inlet, for example, continued to rate the capability OFPs lower than the other stations (likely for the reasons given earlier). Also consistent with earlier station results, there appear to be indications of individual station interactions with specific OFPs (reflected by differences in mean ratings for some of the OFPs for some of the stations). For example, Stations Oregon Inlet and Tillamook had relatively high firefighting ratings, while Stations Gloucester, Cape May, and Umpqua River had relatively low firefighting ratings. However, this and other station-by-OFP interactions were not supported by the statistical analysis (p > .1).

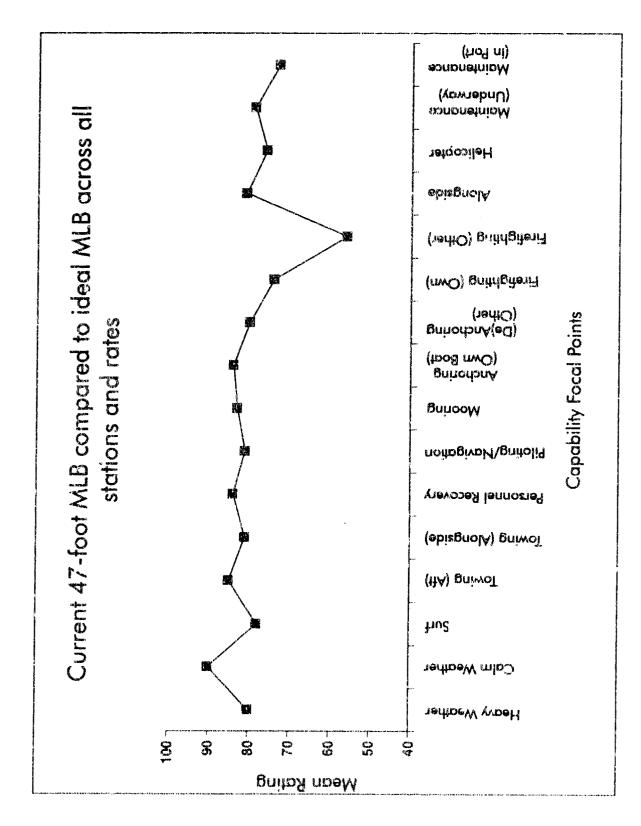


Figure 2. Capability focal points for the 47-Foot MLB compared with the ideal MLB across all stations and rates.

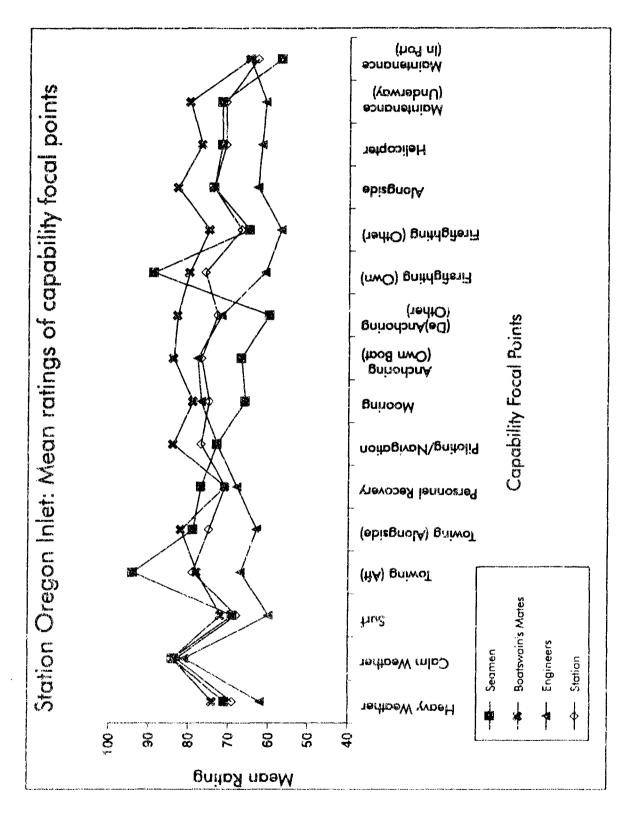


Figure 2-1. Station Oregon Inlet: 47-Foot MLB compared with the ideal MLB mean ratings of capability focal points.

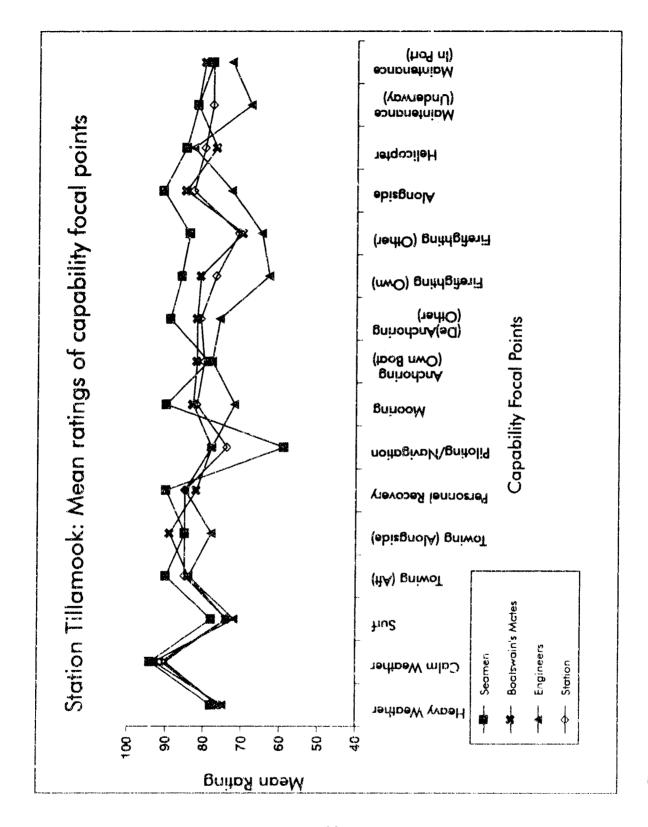


Figure 2-2. Station Tillamook: 47-Foot MLB compared with the ideal MLB mean ratings of capability focal points.

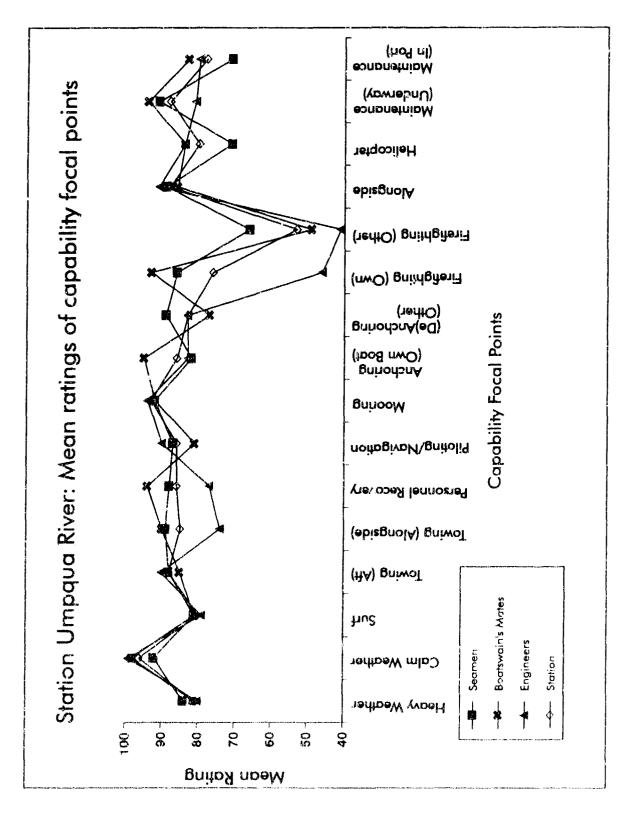


Figure 2-3. Station Umpqua River: 47-Foot MLB compared with the ideal MLB mean ratings of capability focal points.

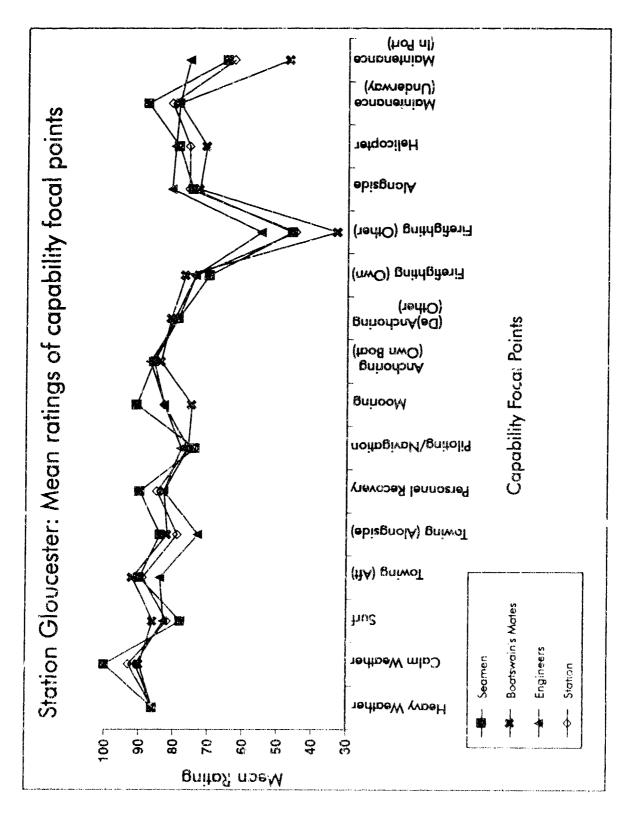


Figure 2-4. Station Gloucester: 47-Foot MLB compared with the ideal MLB mean ratings of capability focal points.

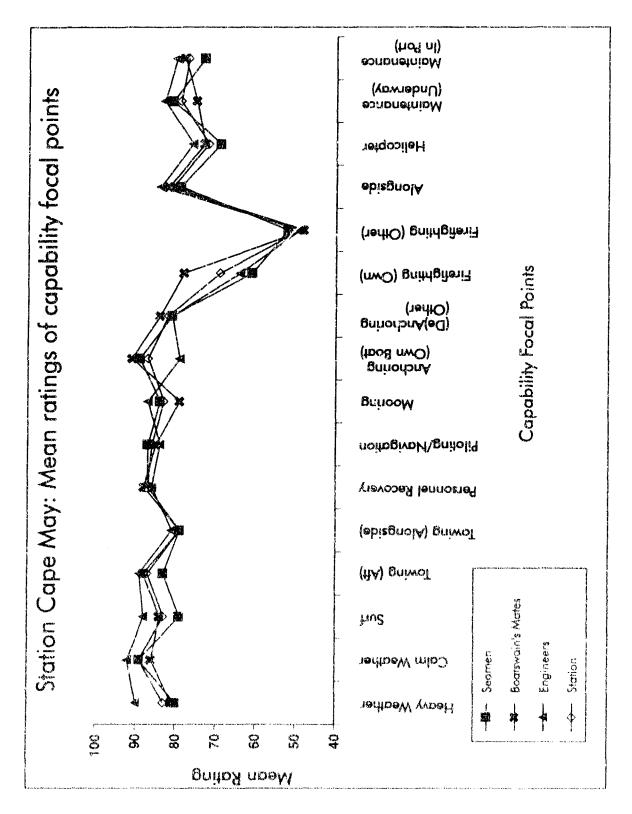


Figure 2.5. Station Cape May: 47-Foot MLB compared with the ideal MLB mean ratings of capability focal points.

3.2 47-Foot MLB Compared with 44-Foot MLB

The data reported in this section were converted from the original scale (2.2.1) to a 0.5 to 2.0 scale that directly reflected the relative advantages of the 47-Foot and the 44-Foot MLBs. The 47-Foot MLB and 44-Foot MLB relative comparison was limited to the effective 0.5 to 2.0 range based both upon early station results suggesting this represented adequate coverage, and the practical need to limit the numbers of rating categories. In the revised scale, 0.5 indicates that the 47-Foot MLB has half the capability of the 44-Foot MLB, 1.0 that the 47-Foot MLB and the 44-Foot MLB are equal, and 2.0 indicates that the 47-Foot MLB has twice the capability of the 44-Foot MLB. Appendix G contains summary data used in this section.

3.2.1 Mission Focal Points

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Figure 3 illustrates the mission capabilities of the 47-Foot MLB relative to the 44-Foot MLB. Examining this figure, it is apparent that the 47-Foot MLB was rated higher than the 44-Foot MLB on all of the mission categories. Indeed, the relative effectiveness was a factor of 1.4 or greater across the various missions. The 47-Foot MLB and 44-Foot MLB relative mission ratings largely parallel the 47-Foot MLB and ideal MLB results seen earlier (r = .93, p < .003). Hence, the overall Mission OFP rating again appears to be most heavily influenced by the Search ratings and the Rescue ratings (the remaining specific mission ratings contribute less to the overall mission OFP rating). This again is not an unusual overall judgment pattern where some components constitute the majority of global ratings and other components contribute to the overall judgment to a much lesser extent.

The patterns of mission ratings (for the 47-Foot MLB relative to the 44-Foot MLB) at each of the individual stations can be seen to be generally consistent with the overall pattern across stations (see figures 3-1 to 3-5). However, in keeping with earlier ideal comparison results, the averaged mission ratings at the stations differed significantly ($p \le 0.025$). Station Oregon Inlet's mission ratings again tended to be lower than other stations (cf., figures 3-1 and figures 3-2 to 3-5) a result not surprising due to the narrow and shallow access channels and moderate to high winds that give less advantage to the deeper-draft and higher-profile of 47-Foot MLB. The 47-Foot MLB nevertheless was systematically rated relatively more capable than the 44-Foot MLB even at the station with arguably most challenging environmental conditions (Station Oregon Inlet).

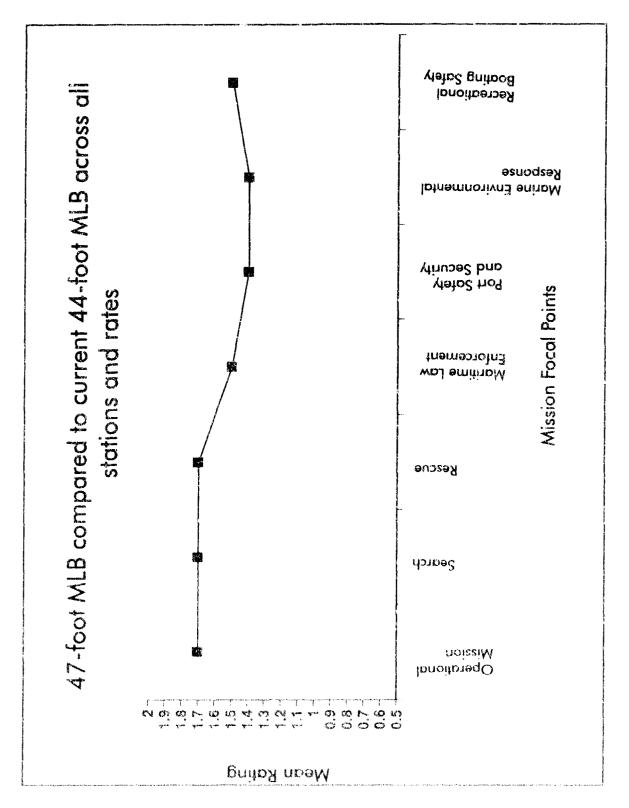


Figure 3. Mission focal points for the 47-Foot MLB compared with the 44-Foot MLB across all stations and rates.

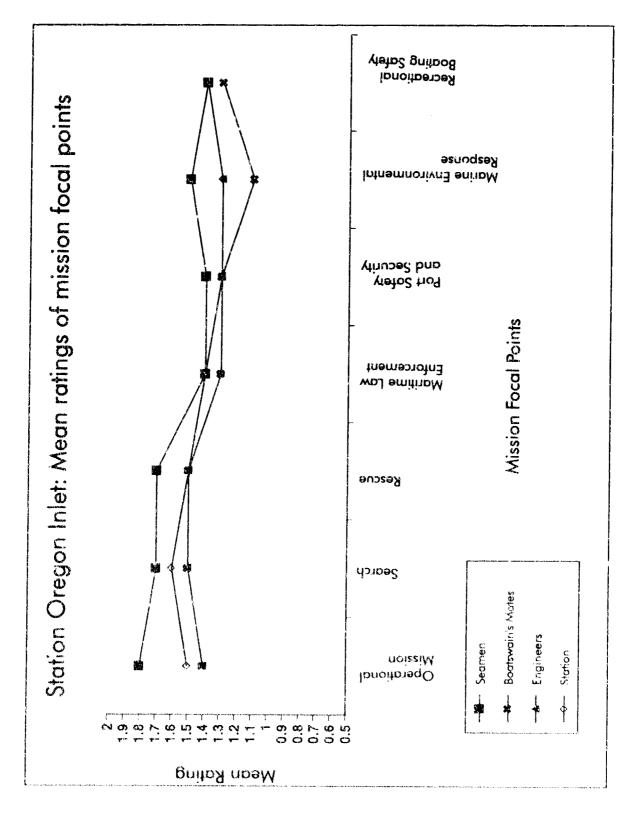


Figure 3-1. Station Oregon Inlet: 47-Foot MLB compared with the 44-Foot MLB mean ratings of mission focal points.

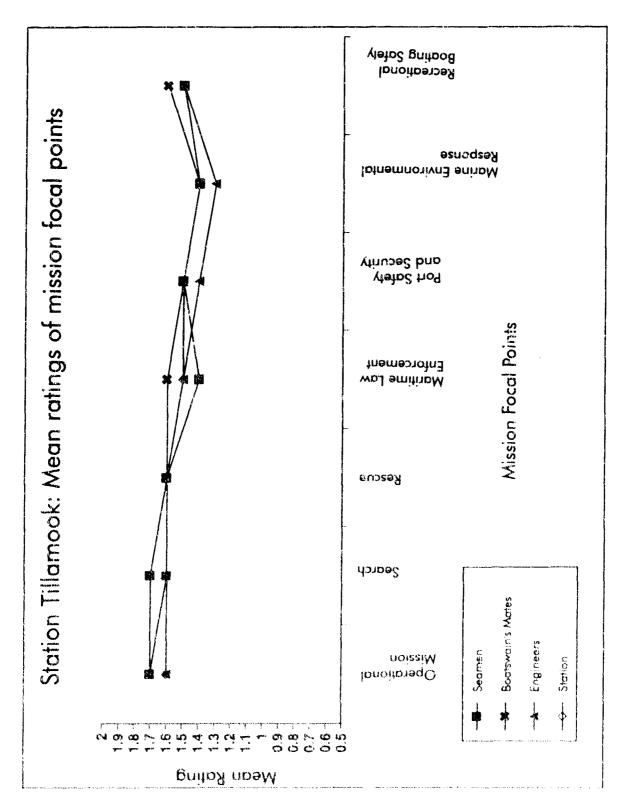


Figure 3-2. Station Tillamook: 47-Foot MLB compared with the 44-Foot MLB mean ratings of mission focal points.

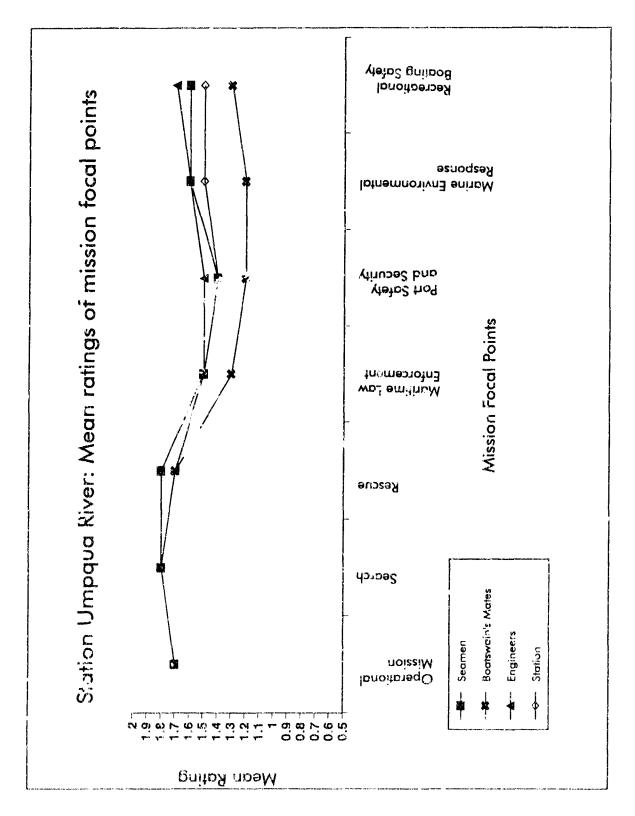


Figure 3-3. Station Umpqua River: 47-Foot MLB compared with the 44-Foot MLB mean ratings of mission focal points.

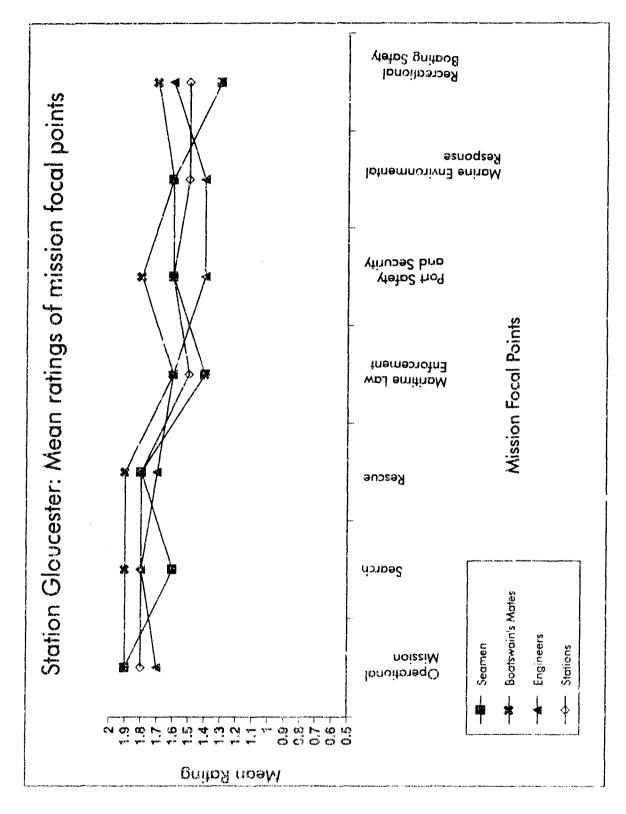


Figure 3-4. Station Gloucester: 47-Foct MLB compared with the 44-Foot MLB mean ratings of mission focal points.

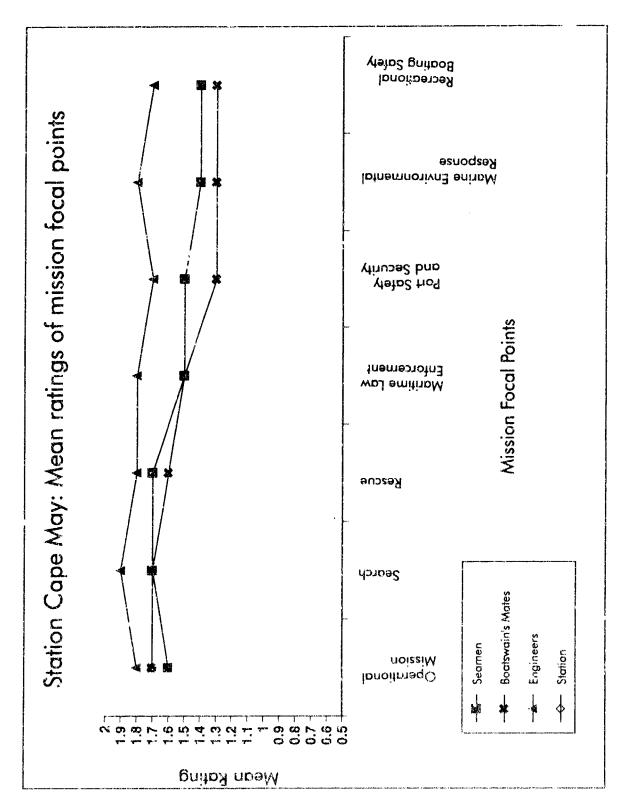


Figure 3-5. Station Cape May: 47-Foot MLB compared with the 44-Foot MLB mean ratings of mission focal points.

3.2.2 Capability Focal Points

Figure 4 illustrates the capability OFP ratings of the 47-Foot MLB relative to the 44-Foot MLB. Here, as in the previous subsection, the 47-Foot MLB and 44-Foot MLB results are very comparable to the earlier ideal results (r = .86, p<10⁻⁴). For discussion purposes, a 1.3 cutoff was used to focus on OFPs where the 47-Foot MLB could be improved. The 47-Foot MLB was considered weakest in comparison to the 44-Foot MLB for the two Firefighting OFPs, with Firefighting (Other) rated inferior, 0.9. Mooring, (De)Anchoring, Helicopter Operations, and the two Maintenance OFPs also equal to 1.3 (albeit the 47-Foot MLB still was higher rated than the 44-Foot MLB). These results point out that the 47-Foot MLB was systematically viewed across stations as relatively more capable (>1.0) than the 44-Foot MLB, except with regard to Firefighting (Other Boat).

The patterns of capability-related OFP ratings at each of the individual stations can be seen to be generally consistent with the overall pattern across stations (see figures 4-1 to 4-5). However, in keeping with earlier ideal comparison results, the relative ratings at the stations differed significantly. (p <.005). Not surprisingly (because of the environmental challenges noted earlier). Station Oregon Inlet's capability OFP ratings again tended to be lower than other stations (cf., figures 4-1 and figures 4-2 to 4-5). There were also some suggestions of OFP differences that did not follow the overall station trends. With regard to Firefighting (Own and Other [boat]) Station Tillamook saw the 47-Foot MLB as marginally more capable than the 44-Foot MLB. This contrasted with the other stations which generally made the Other [boat] Firefighting ratings lower than 1.0 (and often the Own [boat] firefighting ratings as well). This difference in results could be attributed to Tillamook's tendency to accept a policy that the 47-Foot MLB is "...not to fight fires, rather to extract persons from burning vessels." When the policy is accepted, the 47-Foot MLB's greater speed gives it some advantage for getting on scene and extracting persons from a burning ship; whereas, if this policy is questioned, then this greater speed does not compensate for a lack of suitable equipment. These differences aside, it is clear that all stations are consistent in seeing the 47-Foot MLB as currently more capable than the 44-Foot MLB. However, stations also see significant areas for enhancing the current 47-Foot MLB capability as seen earlier (3.1) and as will be seen in the next section (3.3).

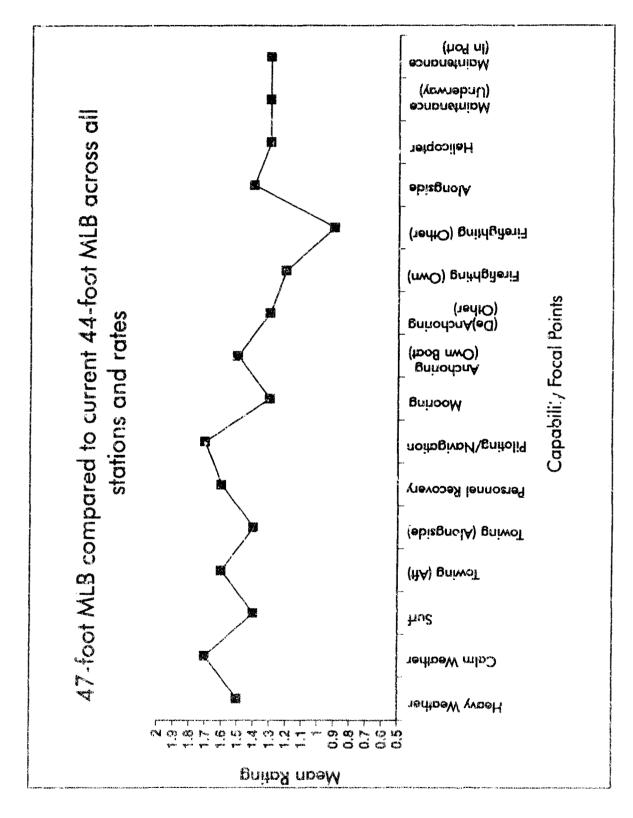


Figure 4. Capability focal points for the 47-Foot MLB compared with the 44-MLB across all stations and rates.

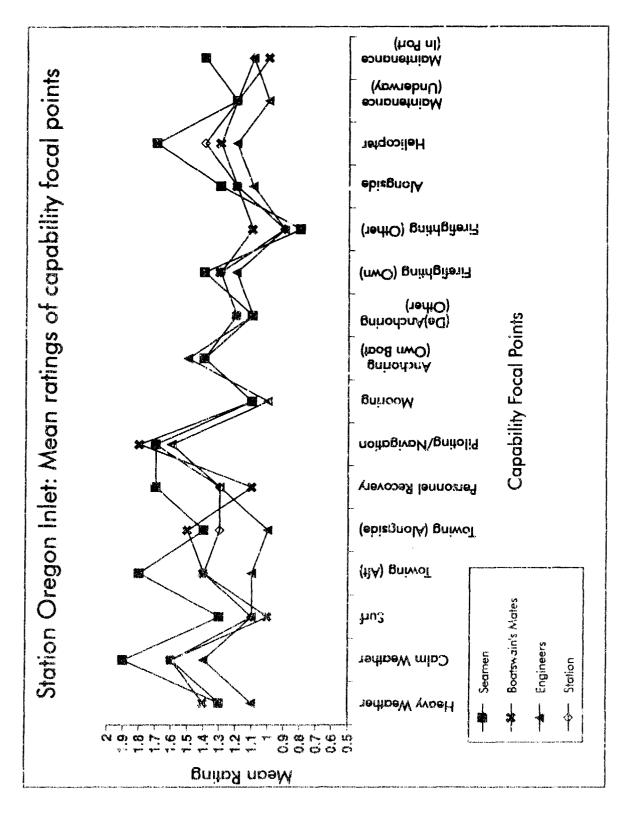


Figure 4-1. Station Oregon Inlet: 47-Foot MLB compared with the 44-Foot MLB mean ratings of capability focal points.

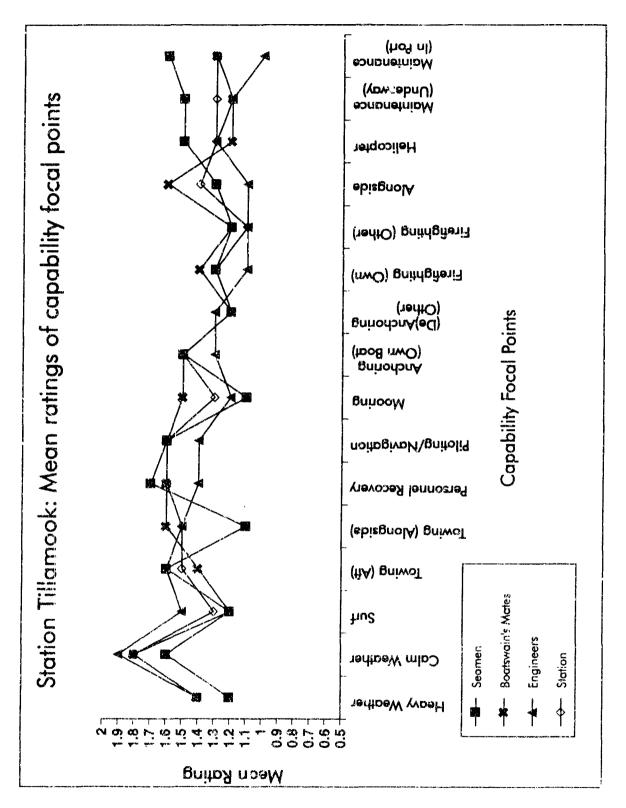


Figure 4-2. Station Tillamook: 47-Foot MLB compared with the 44-Foot MLB mean ratings of capability focal points.

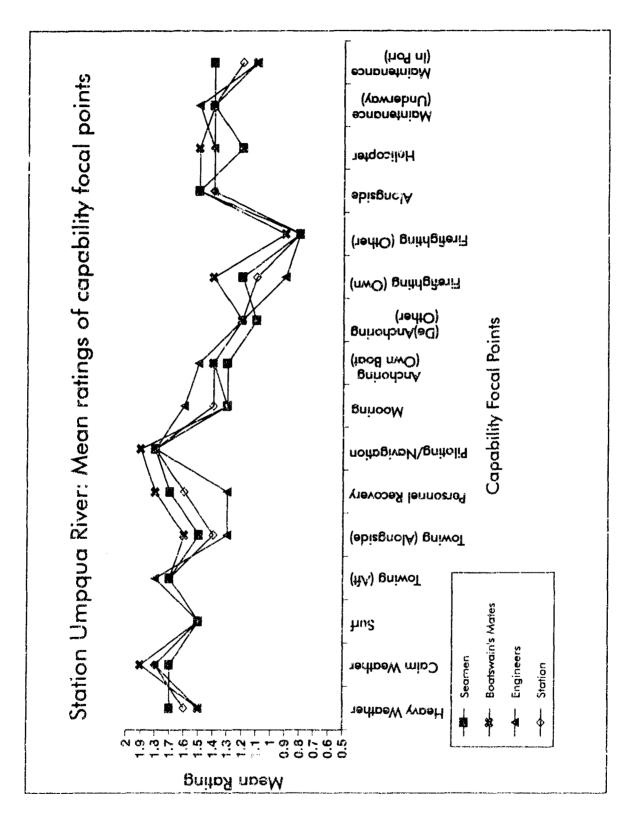


Figure 4-3. Station Umpqua River: 47-Foot MLB compared with the 44-Foot MLB mean ratings of capability focal points.

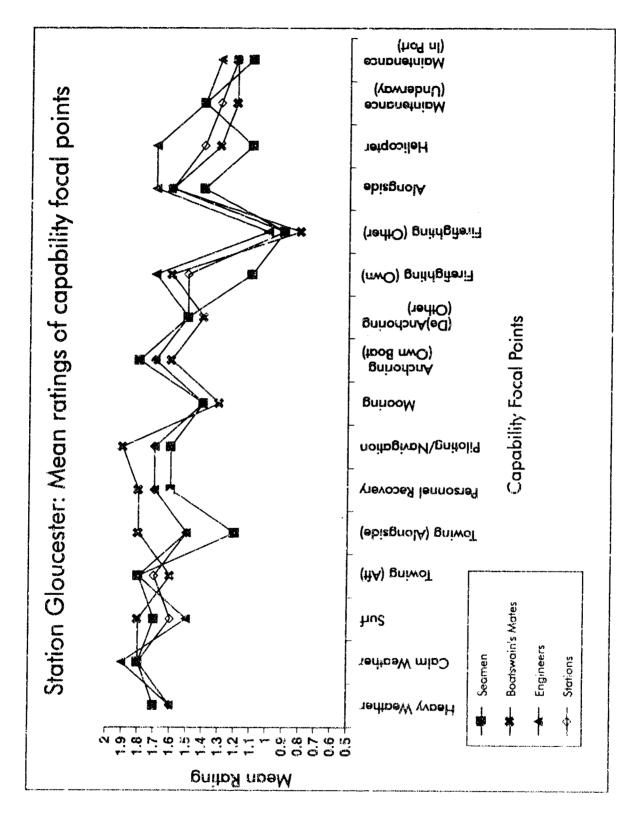


Figure 4-4. Station Gloucester: 47-Foot MLB compared with the 44-Foot MLB mean ratings of capability focal points.

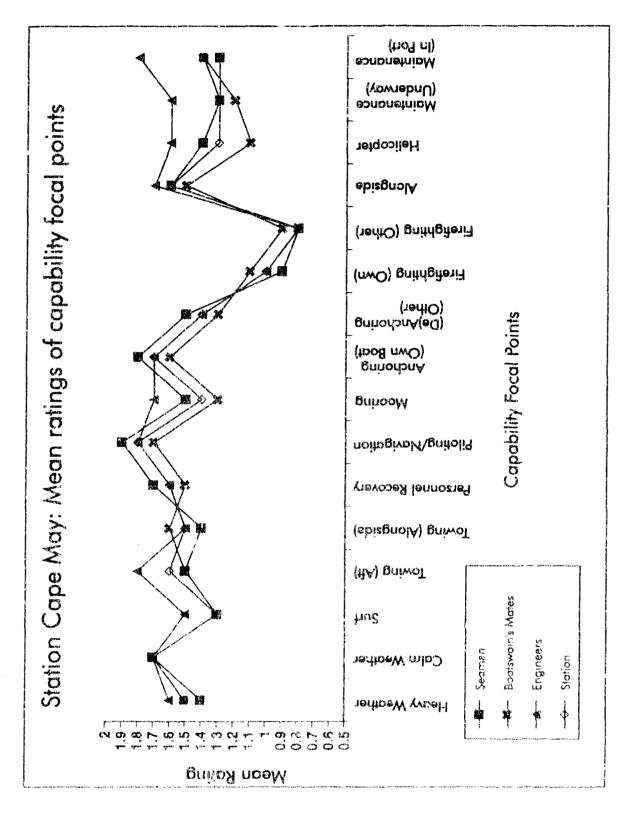


Figure 4-5. Station Care May: 47-Foot MLB compared with the 44-Foot MLB mean ratings of capability focal points.

3.3 Highest Rated Problems from the Small Group Discussion List

Summary data for the Small Group Discussion List is shown in Appendix H. Because this survey provided supplemental information to the OFP results, only the items with the highest rated importance across all stations and rates will be described here (on a 0-none to 5-high scale). Five items had mean values greater than or equal to 3.0, and 13 items had mean values between 2.0 and 3.0. Table 4 contains each of these items, corresponding mean scores, and a brief summary of crew comments.

Table 4. Highest rated items from the small group discussions across all stations.

Highest rated	prob	lems from the Problem or Wish List Survey (0 to 5 scale).
Scores 3.0 or greater		
Firefighting Equipment	3.6	inadequate (at least need another pump for dewatering)
Lazarette Hatch	3.2	too small
Global Positioning System	3.1	add this and integrate it with other electronics (radar, plotter, autopilot)
Deck Plate Fasteners	3.1	too hard to remove/close the fasteners in the Engine Room and Forward Compartment; those in Survivors' Compartment do not fasten well, and it is hard to tell when they are fastened
Non-skid Pads	3.0	come up too easily, need a better system (note that some stations had not yet had the deck sandblasted and new broader-area pads put on)
Scores 2.5 to 2.9		
Crew Member Seats (Enc. Bridge)	2.9	too small; at the wrong height for sitting; too crowded in Enclosed Bridgeeither make the seats to fit crew members or remove them (could make Coxswains' Chairs a little smaller)
Paint	2.7	requires too much maintenance (crews can do a better job of painting if it has to be painted, or remove the paint entirely); environmental concerns are an emerging issue
Navigation Area	2.7	table not easy to get in and out of position; cannot egress quickly with table in place; gear can fly out of box in a roll; instruments fall off the table, make the table easier to use; create secure storage for navigation gear; put a lip and/or a magnetic strip on the table
Steering/Throttle	2.6	not responsive enough (electrical pump); hard to tell if in gear or in neutral; relates to operational problems in surf and mooring
Microphone Box	2.5	too hard to use (not used) because of small size

Highest rated	probl	ems from the Problem or Wish List Survey (0 to 5 scale).
Scores 2,0 to 2.4		
Deck Plates (Forward Comp.)	2.4	not much traction; need pattern to cross; need easier/quicker fasteners; put in small access ports to remove small amounts of water more easily; things can fall through; not very strong (some failures already)
Deck Plates (Engine Room)	2.2	(same as preceding comment)
Deck Surface (Survivors' Comp.)	2.2	very hard to keep clean; use a material that is easier to clean, or make it a darker color; a few comments that the plates could be smaller
Datum Point Marker	2.2	too hard to reach from the deck; put some lower so crew members can throw them, or make them release more quickly
Spot Light	2.1	unreliable; need an auxiliary spot light and more places to plug it in; have to position the light after it is turned on (can hamper night vision); not easy to direct the light with the control system
Pickup Fort/Grating	2. ì	too heavy; needs to be narrower and/or have a rub rail added to it; not very strong; pins are hard to put in place (recommend positive clip system); slippery; need traction in opposite direction
Communication Equipment	2.1	unreliable; not very easy to use, disrupts many operations
Space (Enclosed Bridge)	2.1	too crowded; suggestions to make Coxswains' Chairs smaller, take out crew member seats, and extend cabin

As seen in Table 4, many of the items receiving high importance ratings in the small group discussions were related to OFPs receiving lowest ratings. Most obvious was firefighting equipment which directly relates to the low ratings given previously for Firefighting OFPs. Similarly, several of the items on this list are related to Maintenance OFPs, and steering/throttle relates to problems with Surf and Mooring OFPs. Communication problems were pervasive in all operations and missions, with repeated emphasis by crew members in written comments and group discussions. The next section of the report brings together highlights of the results and focuses on the largest problems found with the current 47-Foot MLB.

4.0 DISCUSSION

4.1 Summary of Research

This report has delineated the results of the administration of the Operational Focal Point (OFP) survey and the small group discussions at the five USCG stations participating in the OT&E of the preproduction 47-Foot MLB. In general, the survey process was well-accepted and appeared to be sensitive to differences in OFPs. This was largely due to the success of preliminary efforts aimed at refining the data collection process (Phase I)

The most significant finding was that the 47-Foot MLB generally was highly rated for suitability and effectiveness when compared to both the ideal MLB and the 44-Foot MLB (with few exceptions). The following summarizes areas where attention can be focused to make the 47-Foot MLB better suited to perform its operations and missions.

Table 5 contains an integrated list of lowest rated items from both comparisons of the 47-Foot MLB (with the ideal MLB and the 44-Foot MLB). Summaries of crew comments about the nature of the problems and possible solutions are also shown.

Table 5. Integrated list of low rated focal points and crew comments.

	Lowest rated Operational Focal Points for the OFP survey
Firefighting (Other Boat)	need better equipment (e.g., at least another pump for dewatering, or a power takeoff system, or a fire monitor)
Firefighting (Own Boat)	lack of fire extinguishers; no capability for dewatering if P-5 is used; hose and nozzle inappropriate material; inadequate P-5 fuel (one gallon); P-5 can needs to be secured; hose too shortneeds to reach length of vessel
Mooring	steering/throttle problems (use detents); sail area effects are pronounced, deeper draft makes boat drift faster in current; bitts/chocks arrangement could be improved; communication is difficult in some conditions (e.g., wind); hand rails over mooring bitts makes them h. I to use; pickup port grating needs to be recessed (e.g., 3").
(De)Anchoring (Other Boat)	large sail area may cause dangerous drift; too top-heavy; may have too much power; too close for a large boat; unable to see and observe crew members
Helicopter Operations	difficult to communicate among crew members and with helicopter; not much space; limited visibility; improve communication system, add a pad for lowering the basket, and add a safety grounding wand
Maintenance Underway	need easier access to components (e.g., sea water pumps), better deck plate system; lazarette hard to get into; lack of space; need handholds in engine room and other spaces; dangerous to change navigation lights or to free up the spotlight when underway; difficult to communicate with person in Engine Room
Maintenance (In Port)	poor paint system (paint not needed); deck rights get water in them; non-stick pads are a problem; difficult to go up on radar arch; too many cracks and crevices for dirt/grime to get into, need glass sea strainers for easier checking; decks in Enclosed Steering and Survivors' Compartment get dirty too easily
Surf Operations	steering/throttle problems (helm response too slow with electronic v. hydraulic pump), need more D-rings, need more handholds, better non-skid system

4.2 Most Significant Issues

Nine most significant enhancements to the current 47-Foot MLB design were identified based on the crew assessments. The order of presentation is based on judgments of approximate impacts on meeting mission requirements

- Steering and throttles need to be improved faster steering response (e.g., use of hydraulic v. electric pump) and the use of obvious throttle detents (related to surf and mooring difficulties) would make the boat-handling better. Improved steering would allow the boat to move into proper position faster in surf. Improved throttles would ensure that the boat could be controlled properly when approaching docks, other vessels, or people in the water. Improvements in both steering and throttles would make it easier and safer to clear bars and narrow channels.
- Communication equipment needs to be made reliable and effective (both internal and external) electronic systems are seen as very unreliable and not always useful. Communication problems were mentioned in the context of almost all operations, and crew members were reported to frequently serve only to transfer messages (e.g., during helicopter operations). Communication could be facilitated by the use of headsets or individual radios. For example, use of headsets during helicopter operations would enable crew members to hear coordination commands better, thereby making the operation safer. The same benefits would be possible in other operations also (e.g., towing).

- D-rings and handholds throughout the vessel require enhancement in particular, D-rings are needed aft near the tow bitt, ladder, and near the forward working areas. Currently crew members are working by the tow bitt (relatively) unsecured. An extra person may also be needed to aid in personnel recovery due to a lack of securing devices near the pickup port. Handholds are needed for going between compartments throughout the vessel, in the Engine Room, and in spaces forward of the Survivors' Compartment. Hand rails alongside also need to be modified so that crew members can slide their hands along them without lifting them over the rail braces. Crew members reported feeling like they could go overboard in rough weather when they have to lift their hands from the rail.
- Navigation area needs to be easier and safer to use specifically, the chart table should be easier to put in place and to get out from under in a hurry. Also, an edge on the table and/or a magnetic strip would keep instruments from falling off. The navigation gear box should be secure and easy to reach from a belted, sitting position. Consideration should be given to an electronics package upgrade (i.e. GPS, radar with plotter; all interfaced) to permit greater hours of direct search (v. navigation) and better search pattern maintenance.
- Seating throughout the vessel needs to be improved to enhance effectiveness and safety—crew member seats need to be redesigned to comfortably accommodate the range of users including: 1) seat shapes supportive of the lower back that do not require continuous leg use to maintain stability in the seat, and 2) seat belts made to fit crew sizes. The locations, shapes, and effectiveness of seating adjustments and position locking mechanisms need to be improved so they are easily use and stay in place under rough conditions (some seats

nominally fixed have collapsed, despite efforts to ensure tightness); and reachable handholds should be provided near seats (particularly crew chairs on flying bridge). Seats should be positioned such that crew members can use the equipment from a seated, belted position.

- Head (bathroom) needs to be improved so it is more likely to be used underway place on the starboard side so the door from the auxiliary space does not open into it, put in a privacy curtain or walls, secure it to the deck, add handholds, and consider moving it into an area further aft where motion will not preclude use. The current location of the head discourages crew members (or survivors) from using it (dehydration and fatigue are expected to be exacerbated when fluids are avoided in order to keep from having to use the head).
- Maintenance needs to be reduced areas where this is possible include paint, non-skid deck, deck plates (fasteners in particular), interior deck surfaces, and insulation (include a gutter on the buoyancy chamber to prevent water from falling into survivors' compartment).
 Better accessibility to regularly maintained components is needed also. These changes would reduce workload and fatigue that compounds mission-related fatigue.
- HVAC system needs to be reliable, non-leaking and not potentially toxic to crew members - the defrosters need to be improved, and fans need to be put in with heaters to circulate
 warm air better. The in-port heaters are not effective; they need fans to distribute the heat
 also. Failure of the HVAC system to work adequately has led to crew members
 experiencing heat and cold stress already.
- <u>Firefighting/dewatering equipment needs to be improved</u> -- this would minimally include adding another pump to permit simultaneous fighting and dewatering.

4.3 Conclusions

Three general conclusions can be drawn from the results of this assessment. These are:

- Overall, crews judged the current 47-Foot MLB design to represent a general improvement over the 44-Foot MLB with regard to effectiveness and suitability for meeting its overall mission.
- Overall, crews judged the current 47-Foot MLB design to be near the "Ideal" with regard to effectiveness and suitability for meeting its overall mission, but does have room for improvement in certain focal point areas (particularly in the nine highlighted areas).
- Overall crew judgments support the assessment that the 47-Foot MLB will be an effective and suitable replacement for the 44-Foot MLB, particularly after the most significant issues have been addressed.

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APPENDIX A:

Number of crew members in each rank by rating

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Table A-1: Station Oregon Inlet: Number of crew members in each rank by rating.

		RATI	NG	
RANK	Seamen	Boatswain's Mates	Engineers & Firemen	Station
Seamen				
E-2: Apprentice	3	***	0	3
E-3: Seaman	2		0	2
Petty Officers				
E-4: 3rd Class		1	3	4
E-5: 2nd Class	1 MST	4	2	7
E-6: 1st Class	~~	2	ı	3
Chiefs				·
E-7: Chief		0	0	0
E-8: Senior Chief		0	0	0
E-9: Master Chief	400 . %i-	1	Ú	1
Warrant Officers				
W-1: Warrant Officer		0	0	0
W-2: Chief Warrant Officer	handerstandigen - Aggregation and the designation of the second of the s	0	0	0
Station Total	6	8	6	20

Table A-2: Station Tillamook: Number of crew members in each rank by rating.

		RATI	NG	Avenue de la constante de la c
RANK		Boatswain's Mates	Engineers & Firemen	Station
Seamen & Firemen				
E-2: Apprentice	0		0	0
E-3: Seaman	5		i	6
Petty Officers			1	
E-4: 3rd Class		5	3	8
E-5: 2nd Class		2		2
E-6: 1st Class		1	1	2
Chiefs				
E-7: Chief		3	1	4
E-8: Senior Chief				
E-9: Master Chief	 -			
Warrant Officers				
W-1: Warrant Officer	**			
W-2: Chief Warrant Officer	en en	1		1
Station Total	5	12	6	23

Table A-3: Station Umpqua River: Number of crew members in each rank by rating.

		RATI	NG	
RANK	Seamen	Bostswain's Mates	Engineers & Firemen	Station
Seamen	1	en a gradaja ili seg		
E-2: Apprentice	i	A.	0	1
E-3: Seaman	7	e-	1	8
Petty Officers				
E-4: 3rd Class		1	4	5
E-5: 2nd Class		2	1	3
E-6: 1st Class		2	1	3
Chiefs .		Samuel Agentina Association and a		
E-7: Chief		1	0	1
E-8: Senior Chief		1	0	1
E-9: Master Chief	, m et	0	0	0
Warrant Officers				
W-1: Warrant Officer		0	0	0
W-2: Chief Warrant Officer		0	0	0
Station Total	8	7	7	22

Table A-4: Station Gloucester: Number of crew members in each rank by rating.

		RATI	NG	
RANK		Boatswain's Mates	Engineers & Firemen	Station
Scamen				
E-2: Apprentice	0	1100	0	0
E-3: Seaman	4		2	б
Petty Officers				
E-4: 3rd Class	~*	1(1)	2(1)	3(2)
E-5: 2nd Class	ia 10	4(3)	1(1)	5(4)
E-6: 1st Class		0	0	0
Chiefs				
E-7: Chief		0	0_	0
E-8: Senior Chief	ean em	0	0	0
E-9: Master Chief		0	0	0
Warrant Officers				
W-1: Warrant Officer		0	0	0
W-2: Chief Warrant Officer		C	0	0
Station Total	4	5(9)	5(7)	14(6)

(reservist in parentheses)

Table A-5: Station Cape May: Number of crew members in each rank by rating.

		RATI	NG	
RANK	Seamen	Boatswain's Mates		Station
Seamen				
E-2: Apprentice	1		1	2
E-3: Seaman	11		2	13
Petty Officers			in the second	
E-4: 3rd Class		7	2	9
E-5: 2nd Class		2	2	4
E-6: 1st Class		3	1	4
Chiefs			va v	·
E-7: Chief		1	1	2
E-8: Senior Chief	- - -	0	0	0
E-9: Master Chief		0	0	0
Warrant Officers		×		
W-1: Warrant Officer		0	0	0
W-2: Chief Warrant Officer		1	0	1
Station Total	12	14	9	35

APPENDIX B:

Operational experience with the 44-Foot MLB and the 47-Foot MLB

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Table B-1. Station Oregon Inlet: Operational Experience with the 44-Foot MLB and the 47-Foot MLB.

					RATING	DNI									
Item		Seamen			Boal	Boatswain's Mates	S		En	Engineers	s		St	Station	
	×	SD	Z	L	١x	SD	Z	L	lх	OS	z	<u></u>	l _×	SD	z
Most common sez state (in Sect)	3£)														
44-Foot MLB	4	2	9		9	60	∞		4	-	9		5	7	2
47-Foot MLB	3	2	9	Leeman	4	2	∞	<u>L</u>	4		9	<u>L_</u>	3	2	20
Most severe sea state (in feet)								h		1			Ŀ.		
44-Foot ML3	4-14 4-44	2	9		14	3	∞ ∞		4	2	9	_	13	3	93
47-Foot MLB	Ĺ	۲۵	9		10	4	∞		6	2	9	<u> </u>	6	3	20
Average length of mission (in hours)	hours)														
44-Foot MLB	Å	3	9		5	2	∞		9	-	9		5	2	20
47-Foot MLB	4	1	9		4	2	7	<u></u>	s,	-	9	1	4	-	19
Longest mission (in hours)															
44-Foot MLB	10	7	9		14	5	∞		12	4	9		12	S	22
47-Foot MLB	9	3	5		7	3	7	l	6	_	2		1	т	138
			100								A			Contract Contract	1

= mean

= number of crew members responding SD = standard deviation
N = number of crew me

Seaman Apprentices and a Marine Science Technician, who serves as a crew member, were included as Seamen. Fireman Apprentices were included as Engineers. Note:

Table B-2. Station Tillamoen. Operational

vrience with the 44-Foot MLB and the 47-Foot MLB.

				Į.	KATING	9									
Item	S	Seamen	c		Bog	Boatswain's Mates	1,8		<u> </u>	Engineers	မှာ		S	Station	
	١×	SD	Z	<u> </u>	ix	SD	Z		İХ	SD	Z	<u></u>	ix	CS	z
Most common sea state (in feet)				•							7				
44-Foot MLB	۸,	1	5		9	2	12		9	2	9		9	2	23
47-Foot MLB	5	-	5	L	9	2	12	ſ <u></u>	5	2	٥٠ و	<u> </u>	2	2	23
Most severe sea state (in feet)]]				3
44-Foot MLB	14	4	8		19	5	12		20	10	9	7	18	7	23
47-Foot MLB	1	2	S	L	13	9	12	L	11	5	9	<u>L</u>	12	9	23
Average length of mission (in hours)	rs)												<i>77</i> 3	ļ.,	7
44-Foot MLB	3		5		3	******	12		3	2	9		3		23
47-Foot MLB	2	2	5		2	-	12		C;	-	9	L	2		23
Longest mission													1		
44-Foot MLB	6	4	5	hangan-a-	18	11	12		15	4	9		15	6	23
47-Foot MLB	4		5		5	3	12		4	2	9		4	2	23

= mean

SD = standard deviation N = number of crew me

= number of crew members responding

Seaman Apprentices and a Marine Science Technician, who serves as a crew member, were included as Seamen. Fireman Apprentices were included as Engineers. Note:

Table B-3. Station Umpqua River: Operational Experience with the 44-Foot MLB and the 47-Foot MLB.

					RATING	NG					. ,				
Item	<i>(</i>)	eamen			Boa	Boatswain's Mates	S		2	Engineers	Ø		Station	u _O	
	×	as	Z		×	SD	z	L	l×	as	z		lx	Sp	Z
Most common sea state (in feet)	€						j.				1.				1
44-Foot MLB	9)val	∞		7		7		9	2	7	9	=	22	2
47-Foot MLB	9	through .	8		9		7	L	9		7	9	_	22	~
Most severe sea state (in feet)			,								 				
44-Foot MLB	. I	7	oκo		22	6	7		17	S	7	12	7	22	[~
47-Foot MLB	7	2	∞	·	10	3	7	L	10	3	7	0	3	22	7
Average length of mission				*								No.			1
44-Foot MLB	4	1	8		4	2	7		4		7	4	_	22	2
47-Foot MLB	4	2	0 0		3		7	L <u>.</u>	3	2	∞	3	2	22	2
Longest mission (in hours)			n sta Lagi												
44-Foot MLB	ó	5	8		16	10	L		18	8	7	14	∞	22	2
47-Foot MLB	9	2	8		9	3	7	-	7	4	7	9	3	22	2

X = meanSD = standard deviationN = number of crew men

= number of crew members responding

Seaman Apprentices and a Marine Science Technician, who serves as a crew member, were included as Seamen. Fireman Apprentices were included as Engineers. Note:

Table B-4. Station Gloucester: Operational Experience with the 44-Foot MLB and the 47-Foot MLB.

					RATING	NG					The second secon			1,000	
Item	alkonomenska stale tra ocerno kol	Seamen	_		Boat	Boatswain's Mates	s		Đ	Engineers	LS		S	Station	
	İχ	SD	Z		lx	SD	z	4	×	SD	z	1	lx	GS	z
Most cerimon sea state (in feet)	et)												*		
44-Foot MLB	5	2	7	₹\$			w;		9	-	2		5		13
47-Foot MLB	4	Reni	Ÿ	Lt.		_	S	4	5		ंद		4	strome	13
Most severe sea state (in feet)															
44-Foot MLB	17	9	4	8	~	3	S		61	9	5		81	5	4
47-Foot MLB	91	m	₹	6.	6	6	S	4	14	9	5		17	7	7
Average length of mission (in hours)	Sours)														6
44-Foot MLB	9	7	4	3		2	25		4	2	5		4	2	14
47-Foot MLB	3	# *****	47	7		_	5	 -	3		5	J	33	ya.eq	14
Longest mission (in hours)									*						de la companya de la
44-Foot MLB	1.0	4	ਹ ਼	8		4	5		9	2	S.		8	4	5
7-Foot MLB	8	3	4	∞		3	S	·	9	3	5	.	7	3	1.4
														***************************************	,

X = mean

SD = standard deviction
N = number of crew mem

\ = number of crew members responding

Seaman Apprentices and a Marine Science Technician, who serves as a crew member, were included as Seamen. Fireman Apprentices were included as Engineers. Zoge

Table B-5. Station Cape May: Operational Experience with the 44-Foot MLB and the 47-Foot MLB.

					RATING	N.G								15	
Item		Seamen			Boa	Boatswain's Mates	ွှာ		圈	Engineers	S		55	Station	
	×	S	Z	4	١×	SD	z	L	ix	SD	Z		lx	SD	Z
Most common sea state (in feet)	et)							() 							
44-Foot MLB	ઉ	9	11		5	2	12		3	2	7	5		4	30
47-Foot MLB	3		12		4	2	14		4	-	ó	4		_	35
Most severe sea state (in feet)						36 x				***					
44-Foot MLB	۲.,	4	=		15	9	12		∞	4	7	-	=	9	30
47-Foot MLB	8	3	12	<u> </u>	11	3	14		6	3	6	0		0	35
Average length of mission (in hours	hours)						į,			7.					
44-Foot MLB	2	1	11		3	2	12		2	2	7	3	~	2	30
47-Foot MLB	ત્ય		12		2	0.5	14	L	2.5	_	6	67	~		35
Longest inission (in hours)															*
44-Foot MLB	2	3	11		10	7	12		7	5	7	30	82	9	30
47-Foot MLB	7	3	12		9	3	14	L	5	2	ó	9	5	3	35

X = mean

SD = standard deviation
N = number of crew met

∨ = number of crew members responding

Seamen Apprentices and a Marine Science Technician, who serves as a crew member, were included as Seamen. Fireman Apprentices were included as Engineers. Note:

APPENDIX C:

Crew characteristics

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Table C.1. Station Oregon Inlet: Crew characteristics.

			} !										
Here were	တိ	Seamen		2	Batswein's Mate	8,11	124	Englineers	8		Station		
	ΙX	03	Z	*	8	2 .	<u>*</u>	S	a.	April 1	S X	8	
Number of years in the U. S. Coast Suard	C3		4	2	-	۲.	∞	9	4	1		9	2
	2.1	3	9	30		000	28	4	9	100	27 6	9	20
Hours per week on the 47-Foot MLB	(e)	4	Ý	7	9	50	1	2	9		6	 -	in Si
Gender of crew members			Ī				<u> </u>	ļ			-	 	7
* 172 c		<u> </u>	S		Ŀ	000			19	<u>L'</u>		-	100
• Female		;		:	!	0	1	;	0	1 '	-	 	
Number of qualified crew										1	-	ļ	11:17:00
• 47-Foot MI.B		1	ব	!			<u> </u>		9	<u> </u>	; ;	ļ	7
• 44-Foot MLB	- 312 1		4		:	7		1		<u></u>		<u> </u>	T 9.

X = mearSD = standard deviationN = number of crew mem

= number of crew members responding

Table C-2. Station Tillamook: Crew characteristics.

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And the second s	÷		RATING	Z		\$							
	(4)	Seamen	g ·	Å	Bontswain's Mates	S. III		Engineers	5	40		Station	
	134	3	Z	ìх	GS	Z		as x	Z		Tox	B	z
Number of years in the U. S. Coast Guard	2		5	2	9	2	10∞	∞	2		∞	1	22
Age (in years)	23	2	v	30	5	12	8	9	9	.l	53	5	23
Hours per week on the 47-Foot MLB	4	æ	v		12	12		1	9	<u> </u>	7	6	23
Gender of crew members					ļ		<u></u>	-			1		
• Male		:	3	<u> </u>	1-	2			9		1	1;	21
• Female			2	<u> </u>		0		<u> </u>	0		1:	1:	~
Number of qualified crew				<u> </u>	_		<u></u> .	-		. <u>1</u>			
• 47-Foot MLB		;	2	<u> '</u>	:	7	<u> </u>		4		1	1	2
• 44-Foot MLB	;	;	5	!		12	<u> </u>	<u> </u>	9		1:	1	23

 \tilde{X} = mean SD = standard deviation N = number of crew mem

= number of crew members responding

Table C-3. Station Umpqua River: Crew characteristics.

			RAT	RATING									
Item	92	Seamen	e	A	Boatswain's Mates	sin's		Eng	Engineers	190		Station	
	İX	SD	Z	×	as	z		1×	SD	z	1X	1	Z
Number of years in the U. S. Coast Guard	3	2	7	2	5	9	<u></u>	1	9	1 4	9	5	17
Age (in years)	24	4	8	8	9	Ĺ		78	9	1	27	9	22
Hours per week on the 47-Foot MLB	12	12	တ	9	5	7		10	9	7	91	∞	22
Gender of crew members				<u></u>	_			_	 -				
• Maic	1	;	9	<u> </u>	<u> </u>	1,-		+-	1	1			20
• Female	1	ŀ	2	'		0		 	+-	0	1	<u> </u>	2
Number of qualified crew				<u></u>	-		<u>i </u>	 	 	- 			
47-Foot MLB	;	1	3			4	<u> </u>	 	1	9		1	13
• 44-Foot MLB	-	+	8	'		7	<u> </u>	+		1	<u> </u>		22
											-		

 \vec{X} = mean

SD = standard deviation
N = number of crew men

= number of crew members responding

Table C-4. Station Gloucester: Crew characteristics.

	,		RAI	RATING									
Item	S	Seamen		&	Boatswain's Mates	e, u,		Engineers	2			tation .	
	ΙΧ	as	Z	bx	8	Z		lx	208	z	×	8	Z
Number of years in the U. S. Coast Guard	4	. 2	3	7	2	4		2	4	8	2	3	01
Age (in years)	25	2	4	27	-	N	12	25	1	150	26	3	17
Hours per week on the 47-Foot MLB	14	2	4	0	2	S	L	01	5	ام ا	=	4	14
Gender of crew members					-		<u> </u>	-	-	T			
· Male	i		4	!	;	S	<u> </u>		'	2	:	1	14
• Female	ı	i	0	!	:	0	<u>L'</u>	 	-	T-	<u> </u>		0
Number of qualified crew							<u></u> _	 	-	<u> </u>			
* 47-Foot MLB		ļ	4	!	<u> </u>	S	<u> '</u> _	-		2	<u> </u>	!	4
• 44-Foot MLB			4		:	2		· :		22	:		14

 $\bar{X} = \text{mean}$

SD = standard deviation
N = number of crew mem

= number of crew members responding

Table C.5. Station Cape May: Crew characteristics.

Item Seamen Roalisment Roalisments Engineers Engineers Engineers Spirit				2	RATING								- 19 - 19		
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r of years in the U. S. Coast 3 1 12 10 6 10 8 7 5 6 1 years) 22 2 12 22 12 30 7 14 29 8 5 7 19 8 27 </th <th></th> <th>ΙX</th> <th>SD</th> <th>z</th> <th>l k</th> <th></th> <th></th> <th></th> <th>The control of the control o</th> <th>-</th> <th>z</th> <th></th> <th>10.7</th> <th>-</th> <th>Z</th>		ΙX	SD	z	l k				The control of the control o	-	z		10.7	-	Z
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APPENDIX D:

Operational focal points survey

(June 1994)

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This appendix contains the instructions for the Operational Focal Points (OFP) survey, survey items, and examples of sub-detailed items for the OFPs.

D-1. General Instructions

The following section contains the general directions provided at the beginning of the OFP survey.

Thank you for participating in this survey. You are asked to complete this survey because you and your fellow crew members have experience with the pre-production 47-Foot MLB. The responses you provide to us will help determine the relative suitability/effectiveness of the current 47-Foot MLB design. This information will allow the engineers to focus future design efforts at improving the 47-Foot MLB prior to full production.

The questions in this survey are divided into three sections:

- background,
- comparison of the suitability/effectiveness of the current 47-Foot MLB to your perception of the ideal MLB, and
- comparison of the suitability/effectiveness of the current 47-Foot and 44-Foot MLB.

The questions in the two comparison sections are identical in content. The instructions differ, however. We ask that you pay special attention to the instructions for these two sections.

We will code all the questionnaires, and a master list with your name and the codes we assign will be kept by the Principal Investigator, Dr. Alvah Bittner. He will not show this list to any Coast Guard personnel; therefore, all responses you provide will be kept confidential.

After reviewing these instructions, researchers directed crew members to go to the next section of the survey: Background (D-2).

D-2. Background

The following are the background questions in the OFP survey. No instructions were provided as the items were considered to be relatively self-explanatory, and researchers were available to assist crew members if they were uncertain about the meanings of the questions.

Name:		ID No.
How n	nany years experience do you have	in the Coast Guard?
What i	s you rating? (occupation,	e.g., MK, BM, SN)
How n	nany years experience do you have	in your rating?
List cr	oss raining you have in specialties	other than that specific to your rate:

For each of the 5 questions below, enter the number for the 44-Foot MLB on the LEFT and the number for the 47-Foot MLB on the RIGHT. (Please enter a single number rather than a range of numbers.)

44-Foot MLB		47-Foot MLB
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	Most SEVERE SEA STATE under which you operated (in feet)	
	AVERAGE LENGTH OF MISSION (in hours)	
The state of the s	LONGEST MISSION (in hours)	

Additional Background Questions provided by the USCG R & D Center

1. What is your age in years?
2. What is your sex? Male Female
3. What is your height? feet inches
4. What is your weight? lbs.
5. How long have you been in your current assignment? yearsmonthsweeks
6. What is your present <u>rank</u> (e.g., First Class, Third Class, Chief)?
7. How long have you been in your present <u>rank</u> ? years months weeks
8. Are you qualified on the 47-Foot MLB? Yes No
If Yes, how long? months weeks
9. Are you qualified on the 44-Foot MLB? YesNo
If Yes, how long? years months weeks
10. On average, how many hours per week do you spend on-board the 47-Foot MLB? hrs.
11. On average, how many hours per week do you spend on-duty? hrs.
After crew members completed the background questions, they were directed to turn to the

instructions for the next section: Current 47-Foot MLB compared with the Ideal MLB (D-3).

D-3. Current 47-Foot MLB compared with the Ideal MLB

This section provides the instructions for the 47-Foot MLB comparison with the ideal MLB, OFPs, and an example of sub-detailed OFP items.

Instructions to crew members:

In this section of the survey we will ask you to compare the current 47-foot MLB with the ideal MLB on a number of operational focal points (OFPs). The ideal MLB will have the best equipment and design, based on your personal preferences, that facilitates activities implied in each OFP.

You will use a 0-100 point scale, like the following example, to make your comparisons. Each point on the scale represents percentages of the ideal in 5% increments.

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For each question in this section, if the equipment and design of the current 47-foot MLB are as good as they can be compared to the ideal MLB, then fill in the bubble for 100%. If the equipment and design of the current 47-foot MLB are less than they can be compared to the ideal, then choose a percentage that represents how close to the ideal you feel it is. For example, if you feel the 47-Foot MLB is only 75% of the ideal MLB on a certain OFP, then fill in the bubble that corresponds to 75% on the scale. Depending on how you respond to OFPs, we may ask you to complete more detailed questions related to various aspects of the OFPs. A researcher will notify you when to complete the detailed questions.

We will also ask you to provide an estimate of the number of hours of experience you have on the 47-Foot MLB for each of the OFPs. Please provide this estimate on the right-hand column next to the OFP scale. Finally, a blank space has been provided to the right of the OFP name, above the rating scale. Please use this space to provide any additional comments regarding the OFP.

If there were no questions, crew members were asked to begin this section of the survey. Crew members were instructed to rate each OFP based on their experiences with the 47-Foot MLB. If they did not have any experience on a certain OFP, crew members were instructed to specify NOT APPLICABLE (N/A) for the OFP. Crew members provided ratings on all OFPs shown in this survey section in cable D-L.

Table D-1. OFP Survey for 47-Foot MLB compared with ideal MLB.

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A pre-determined threshold value of 75 was used to ask crew members to complete detailed questions. In other words, if an OFP was rated below 75, the researchers directed crew members to the appropriate section of the survey where detailed questions were located. Table D-2 shows the detailed questions for Heavy Weather Operations. Each OFP had similar detailed questions.

Table D-2. Heavy Weather Operations detailed survey items.

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Crew members would rate, using the same scale as in the OFPs, the detailed questions prior to continuing to the next section of the survey. Once all of the OFPs and the respective detailed questions were rated, crew members were directed to the next section of the survey: Comparison of the 47-Foot MLB with the 44-Foot MLB (D-4).

D-4. Comparison of the 47-Foot MLB with the 44-Foot MLB

The following section provides the instructions for the 47-Foot MLB companson with the 44-Foot MLB, OFPs, and an example of sub-detailed OFP items.

detailed questions for Heavy Weather Operations (same as those in table D-2 using the different scale). Each OFP in this section of the survey had similar detailed questions.

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100% 14-Foot M	80% FR		60%		40%		20%		Equal		20% [40%]		60%	mention or proper	80% 37.		00% MLB
		*					A		particular in considerate and constitution in the constitution in				The second secon	*********				- 1/1/1	
Comm	O	o	- e x	o	O	,T	61	\overline{a}	<u> </u>	<u></u>		<u></u>		<u></u>					
100%		-24		\mathcal{L}		\bigcirc	<u>O</u>]	9	O. Farrel	<u>Q</u>	200		O 4007	Ω	0 600	O	O POC	<u> </u>	(4)0%
IX Foot M	3077 1 B		50°F	1	-1(0%		20%		Figual		20% [40%		60%		80%		(00% MIB
																	• '		

Crew members would rate, using the same scale as in the OFPs for this section, the detailed questions. Once all of the OFPs and the respective detailed questions were rated, crew members were allowed to take a break before returning for small group discussions.

APPENDIX E:

Phase 2 small group discussion list

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APPENDIX E: PHASE 2 SMALL GROUP DISCUSSION LIST

47-Foot MLB Project Small Group Discussion List

LAST	NAME		STATION	WILDER HEADER VICTOR A ALERS SERVICES FOR SERVICES FOR SERVICES SERVICES AND REPORT OF THE SERVICES AND ADDRESS OF
------	------	--	---------	--

The following list contains items previously identified as either problems with, or desired additions to, the 47-Foot MLB. Please evaluate each item, based on your own opinion, using the following scale:

0 = not a problem; ok as it is; not needed

1 = slight problem; might like to have this added; low priority

2

3 = moderate problem; would like to have item added; moderate priority

4

5 = big problem; definitely add this item; high priority

Fill in any item that you think should be added to the list in the blank spaces provided (and on the back of each page if more space is needed).

Secretary Communication Control of the Communication Control of the Communication Control of the	PROBLEM OR WISH LIST AREA	SCOP
n arabir adamentaka arabir eta 1000an - 1000an eta 1000an 1000 a arabir		er agrand in vive den selfer ja nem krigerije, waa krigger de an eeg
Aft batch to survivers' comparting	TS SE	The state of the s
Chocks	age of the control control control of the control control control of the control contr	
Bitt .		
Tow resi/tow but		CARREST ME CHARLES A REAL PROPERTY OF THE PARTY OF THE PA
Spot light		
Pickup port/grating		
Mon-skid pads		Angeles (1971) and the second
Paret	The second secon	and the second s
An deck space	•	
D-rings		ercy at a consistence and a consistence of
it andhoi Is		The state of the s
Ruty sails	and the state of t	The second secon
Forward handrarts		
Firefighting equi-nen	na partira de la compania de la compania de la compania de la compania de la compania de la compania de la com	

PROBLEM OR WISH LIST AREA	SCORE
	
	-
Rogine Room	
Deck plates	
Tool box	
Bilge pump indicator	
Space	
Sea strainer (checks)	
Lazarette hatch	
Fuel capacity	or and approximately the second con-
Flying Bridge	MARKET ROOM OF THE STREET, AND ASSESSED.
External speakers	
Radar protective door	manus tal di manga akur sayang manadi s
Microphone box	
Steering/Throttle	
Crew member seats	
Communication equipment	
Datum point (life ring & strobe)	
Protection from environment	
Instruments station	
	Annual Angus Andreas
	1 1

PROBLEM OR WISH LIST AREA	SCORE
Enclosed Bridge	
Crew member seats	
Defrosters (HVAC system)	
Forward visibility	
Space	
Electronics	
GPS	
Coxswains chairs	
Navigation area	
Forward Compartment	A CONTRACTOR OF THE PARTY OF TH
HVAC (Heating/ventilating/air conditioning)	<u> </u>
Deck plates	
Space	
	*
Survivors' Compartment	
Deck surface	
Deck plate fasteners	
Bench seats	
]

PROBLEM OF WISH LIST AREA	SCORE
Habitability	
Hot cups	
Food and beverage storage	
Head	
Rest area	
HVAC system.	
Weapons storage	
Interior insulation	

APPENDIX F:

Current 47-Foot MLB compared with ideal MLB across all stations

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Table F. Current 47-Foot MLB compared with ideal MLB across all stations.

OPERATIONAL FOCAL POINT	X	SD	N
Heavy Weather Operations	30	14	109
Calm Weather Operations	90	11	112
Surf Operations	78	16	104
Towing (Aft)	85	12	112
Towing (Alongside)	81	16	112
Personnel Recovery	84	15	112
Piloting/Navigation	81	15	112
Mooring	83	14	112
Anchoring (Own Boat)	84	15	111
(De) Anchoring (Other Boat)	80	12	102
Firefighting (Own Boat)	74	21	111
Firefighting (Other Boat)	56	26	110
Alongside Operations	81	13	112
Helicopter Operations	76	18	111
Maintenance (Underway)	79	14	108
Maintenance (In Port)	73	19	109
Mission	86	9	110
Search	85	10	109
Rescue	85	11	110
Maritime Law Enforcement	81	14	106
Port Safety and Security	82	12	102
Marine Environmental Response	80	13	102
Recreational Boating Safety	82	13	106

Key: $\overline{X} = Mean$

SD = Standard deviation

N = Number of crew members responding

Values 0 = 47-Foot MLB none of what it ϵ if d be

50 = 47-Foot MLB half of ideal

100 = 47-Foot MLB ideal

Table F.1. Station Oregon inlet: Current 47-Foot MLB compared with ideal MLB.

大学 はないとうというないというない

en rege					RATING	ING						M . √			
and construction		(S)	Seamen			Boetswaln's Mates	69 60		Δ						
canacional l	Civi shoust rocal roint	×	SD	Z	ix	8	Z		bc	8	Z.			8	¥
and the state of	Heavy Weather Operations	7.1	25	4	74	10	7	<u></u>	62	28	9	L	69	23	17
	Calm Weather Operations	84	7	S	<u>%</u>	7	7			1.7	Q.	L	83	13	<u>∞</u>
THE REAL PROPERTY.	Sur Operations	69	28	5	72	6	7		93	34	ر د		88	23	17
erenada.	Towng (Aft)	94	5	w.	78	13	۲		67	90	Ş	<u> </u>	97	1.7	82
vensia div	Towing (Alongside)	79	19	5	82	740-14 92-14	_		63	ë	4D		7.5	15	60
a removed to	Personnel Recovery	77	8	S	~	77	-		99	13	9		17	91	8
nament en la	Ploing/Navigation	73	22	5	\$	٠,	<u></u>		73	17	S.		77	15	83
1	Mexing	99	26	S	79	(7		77	**	ŵ		7.5	17	8
and a second	Anchoring (Own Boat)	19	27	S	26	9	7		20	13	9	L	77	<u>80</u>	<u>18</u>
errandiga Tananan	(R) Anchoring (Other Boat)	93	24	4	83	9	8]	72	16	ν,	L	73	81	15
,	Firefighting (Own Boat)	68	6	5	08	6	_		51	25	Q.		76	61	90
nerest.	Firefighting (Other Boat)	65	=	ν)	75	, es 4			57	22	₩7		67	80	17
MARKET (Alongside Operations	74	13	5	93	-	r-		63	15	νp		74	4	90
	Heinopter Operations	72	-21	2	77	9	7		62	2	vo	mangan mane pel	71	4	93
i	Maintenance (Underway)	72	<u>e</u>	S	8	9	-		19	2	\$		7.1	13	00
mmami	Maintenance (in Port)	57	67	5	65	15			65	9	9		63	93	∞

Table F.1. Station Oregon Inlet: Current 47-Foot MLB compared with ideal MLB.

				RATTING	SNO					31 13		
		Seamen	aterimi yeshiddin tishini da	a a	Reads was						i	
Upriminasi koca Point	×	SD	Z,	×	8	.		8	Sin	j be		Z
Misson	ŝĹ	2	5	83	∞	-		-	ç	2	6	80
Kerch	78	4	ĸ٦	83	۲-	4	2	-	v 0	8	∞	12
. Regue	70	4	5	60	ς,	7		2	9	75	90	<u>×</u>
Mantime Law Enforcement	2	v	v	76		-		-		1 %	-2	
,	78	4	\$	08	9	F-	22	=	**	ę,	5	9
Aarine Environmental Response	74	-	8	\$	4	7	7,	-	4	70	=	55
· Recreational Boating Safety	11	খ	k O		2	-	12	1811# #****	4 7	17**.	0	
									Service Contract		SALES OF SALES	-

X = mean
 SD = standard deviation
 N = number of crew members responding

Table F.2. Station fillamook: Current 47-Foot MLB compared with ideal MLB.

en de la companya de la companya de la companya de la companya de la companya de la companya de la companya de				RA.	RATING								
	(2)	Scamen	15 A MEN COMMANDE A		Bos	Bostowska's Mate		3 62		10 to 10 to			
Operational vocal Politi	ιx	as	z		×	8	Z.	, bx	8	22	<u> </u>	8	
Heavy Weather Operations	78	81	٧.		76	17	12	7.5	1.4	9	76		23
Calm Weather Operations	34	7	5		8	œύ	2	93	7	ó	6	۲,	23
Surf Operations	78	61	2		<u>.,</u>	(°7)		7.2	18	9	7.7	15	22
Towing (Aft)	8	6	80	1	33	4	<u>C1</u>	3 20	7	9	85	7	23
Towing (Alongside)	35	6	*		68	()SS-Aj	12	N.	13	9	85	12	23
Personnel Recovery	3	12	w)]	C)	2	2	36 36	-	w	80	15	23
Piloting/Navigation	59	38	5		20/	12	2	78	13	9	74	2	23
Moorng	8	6	'n		83	1.2	12	12	£.,	Ś	82	13	23
Anchering (Own Boat)	79	61	8		250	garag garag garag	1.2	7.8	හ	⟨\$⟩	ဆ	12	23
(De)Anchoring (Other Bozt)	89	propri	44		82	7	12	92	Š	Ø	6 0	7	22
Firefighting (Own Boat)	86		50		200	R	드	G	29	9	11	22	23
Firefighting (Other Boat)	26	6	45		g	56	2	99	26	\$	7.	24	22
Alongside Operations	16	7	v.		35	=	2	73	53	9	83	12	23
Helicopter Operations	85	20	64°)		F.	5	1.2	Se	*5	Ŷ	80	13	23
Maintenance (Underway)	82		5		32	∞	grans grans)	89	4	Ŷ	78	12	22
Maintenance (In Port)	78	œ	3,		80	30		73	01	9	78	=	22

Table F.2. Station Tillamzok: Current 47-Foot MLB compared with ideal MLB.

				RATING	9								
	W2	Seamen		4	Boetswain's Mates	12° 13		Engineers	1			Station	
Operational Focal Point	t×	QS	Z	bx ·	8	z	*	SD	2.		×	SD	z
Mission	68	7	S	85	7	Ξ	85	90	9	l	98	7	22
· Search	85	20	S	85		12	77	15	9	l	81	14	23
· Rescue	68	7	S	83	7	12	80	15	9	L	84	01	23
Maritime Law Enforcement	86	ж	च	88	12	12	79	15	9		8	12	22
Port Safety and Security	83	61	Š	85	6	1.1	76	14	9	l	<u>8</u>	13	22
· Marine Environmental Response	86	S	4	85	6	-	9/	14	9		82	=	21
· Recreational Boating Safety	87	10	۶	87	6	12	08	16	9		85	11	23

X = mean SD = standard deviation N = number of crew members responding

Table F.3. Station Unipqua River: Current 47-Foot MLB compared with ideal MLB.

- a sangarah					RATING	<u>ق</u>						2000 2000 2000		1 (1) 2 *1
	6		Seamon	ei	ă	Boetswale's Mates			Sept.	2		38	Station	
***************************************	Operational Form Politic	×	SIL	Z	×	8	Z	bx	8	Z		Fix.	B	Ż
	Heavy Weather Operations	84	5	7	88	7	ţ".	80	81	7		18	=	21
THE TRANSPORT	Calm Weather Operations	92	01	∞	86	4	7	66	2	7		8	7	22
and the second	Surf Operations	<u>~</u>	19	œ	81	10	4	79	15	7		80	9	19
was con a series and	Towing (Aft)	88	12	30	85	12	7	%	∞	7		88	=	22
COLUMN TO A	Towing (Alongside)	68	9	x o	8	01	7	74	20	7	L	85	1.5	22
	Personnel Recovery	80 80	14	90	98	5	7	77	25	7		98	82	22
F-8	Piloting/Navigation	87	10	cro	81	80	7	06	11	7		98	13	22
e menor Milita	Моспи	25	∞	∞o	92	01	7	94	L	7	6	93	80	22
	Anchoring (Own Boat)	82	22	90	95	3 0	7	83	25	9		98	20	21
	(De)Anchoring (Other Boat)	68	7	7	77	17	9	83	9	9	•	83	12	19
	Firefighting (Own Boat)	986		∞	93	9	7	46	31	7		76	27	22
	Firefighting (Other Boat)	8	23	00	46	29	7	4.1	58	7	8	53	28	22
	Alongside Operations	80	5	80	88	6	7	91	œ	7	œ	88	7	22
	Helicopter Operations	7.1	28	7	84	0.	۲-	48	15	7	<u> </u>	80	61	21
THE PARTY OF	Maintenance (Underway)	16	2	9	94	æ	9	8.1	18	7		88	13	19
Top years	Maintenance (In Port)	17	퐀	7	83	œ.	9	80	28	7		78	25	26

Table F-3. Station Umpqua River: Current 47-Foot MLB compared with ideal MLB.

					RATTING	ING.									
		<i>G</i> 3	Seamen			Bontswales's Mates	,			Ing bee		*	8	ugi.	
	Operational Focal Polat	×	38	z	×			z	100	48	7,		Á	8	Z
Σ	Mission	3	9	œ	68	6		<u> </u>	68	11	7	<u></u>	15	6	22
· ·	Search	8	7	∞0	92	00 21		7	93	7	7	L	92	7	22
	Rescue	92	7	90	65	6			9/	22	7	L	87	16	22
Andrew Water	Maritime Land	\$	σ.	œ	72	26			84	14	9		08	18	21
	Port Safety and Security	98	01	7	82	18		7	16	7	9	1	98	13	22
- Company	Marine Environmental Response	85	01	1-	73	88	·	7	93	90	9		83	15	702
and the second	Recreational Boating Safety	83	9.	-	83	6	-		16	7	9		87	ō,	30

 $\hat{X} = mean$ SD = standard deviation N = number of crew members responding

Table F.4. Station Gloucester: Current 47-Foot MLB compared with ideal MLB.

Polity (preprinter community and control of the con				RATING	S NG									
	and a major or the section	X sees		3	Boatswaln's Mates			Engi	Engineers			Station		
Operational focal form	×	as	z	b ×	8	Z		bx S	QS.	Z	×		B	Z
Heavy Weather Operations	98	=	47	9,6	7	s)	00	86	11	ۍ	86)	6	14
Calm Weather Operations	8	0	4	8	9	5	6	16	7	5	93	~	7	14
Surf Operations	73	6;	4	9,6	60	4	∞	83	8	5	82	-	12	13
Towing (All)	8	20	4	92	9	43	∞	85 44	15	5	. 89		10	14
Towing (Alongside)	*	1.1	41	82	<u>sc</u>	\$		73	26	\$	67		20	14
Personnel Recovery	8	30	4	80 EQ	14	2	8	83	25	5	85		17	14
Piloting/Navigation	7.4	2	4	76	114.8°	K.)	,	78	3	S	9/	٠,	6	4
Moering	16	ťΩ	4	75	2	5	∞	83	13	5	83		11	14
Anchoting (Own Boat)	86	œ	4	20	οκ	\$		87	6	5	98		3	14
(De) Anchoring (Other Boat)	7.9	7	4	99	2	S		79	o ∪	3	80		6	14
Firefighting (Own Boat)	70	0	**	77	10	۸,		74	22	S	74		14	14
Firefighting (Other Boat)	46	23	**	33	29	5	\$	55	25	5	45		26	14
Alongside Operations	75	24	~	73	13	5	•••	81	7	S	92	5	15	14
Helicopter Operations	7.5	(~	-+	71	140-15 141-15	35	∞	98	5	5	76	2	8	14
Maintenance (Underway)	888	9		79	~	5		79	5	5	8		- 9	14
Maintenance (In Port)	65	22	~	47	34	S	7	76	15	5	63		27	14

Table F.4. Station Gloucester: Current 47-Foot MLB compared with ideal MLB.

		·		RA	RATING							kaisi o		
	U 7	Seamen	POTENCY LONGINGS AND SPACES		Boatswein's Matee	, II &			Engineers			Station		
Operational Focal Point	×	as	Z	 x	8	Z		×	as.	z	×	8	Service Comme	Z
Mission	91	10000 (1000)	4	88 88	80	5		83	7	5	8.7	œ		7
. Search	88	6	4	87	7 7	5		98	8	5	87	7		4
. Rescue	85	9	4	89) 2	3	1	82	9	5	85	5	9457E	4
. Mantime Law Enforcement	74	pract	4	99	13	5		7.7	15	5	73	****	TEST - CA. TANKS STREET AND ASS.	4
. Port Safety and Security	88	12	4	74	7	4		73	23	5	78	139		13
- Marine Environmental Response	79		4	2	3 15	4		92	25	5	76	28	يان به مستعمل الدين دخ دار مشده	ביב ביב
 Recreational Boating Safety 	76	19	4	73	3 14	5		74	26	5	74	61		4

= mean

SD = standard deviation N = number of crew members responding

Table F.5. Station Cape May: Current 47-Foot MLB compared with ideal MLB.

and of a Market for the control of t		norm galdinos, erios, a cale	Seamen	* (A. a. com ville) * (A. A. com v	À	Boatswain's Mates			Eng	Engineers			Station	
The same area of the same and the	'sperational rocal Foint	ĺХ	SD	z	bx	8	N	X		8	z	<u></u> t×	18	Z
	Heavy Weather Operations	80	12	powers years	81	10	14	8		-	6	83	=	34
maranti.	Calm Weather Operations	89	6	12	86	21	14	92		7	6	68	7	35
iden lade.	Surf Operations	79	15		\$	13	14	88		000	∞	83	13	33
	Towing (Aft)	83	17	12	8	တဂ	14	68		7		87	12	35
	Towing (Alongside)	79	15	1.2	79	21	14	81		11	6	79	17	35
	Personnel Recovery	87	10	12	88	10	14	98		10	6	87	01	35
	Piloting/Navigation	87	11	12	85	10	14	84	; r 24	varia)	6	98	0.1	35
``	Mooring	8.4	15	12	79	19	14	87		00	6	8	15	35
, r . r . r . h .	Anchoring (Own Boat)	68	90	1.2	6	∞	14	62		20	6	87	13	35
zminish.	(De)Anchoring (Other Boat)	81	7	6	2	4	14	81		10	6	82	Ξ	32
	Firefighting (Own Boat)	19	15	,	78	4	14	Æ		26	6	69	19	34
to the second	Firefighting (Other Boat)	52	19	12	48	29	14	49		30	6	49	25	35
	Alongside Operations	79	13	12	82	14	14	84		10	6	81	13	35
elected to the form	Helicopter Operations	69	24	5	73	23	14	76		24	o,	72	23	35
	Maintenance (Underway)		10	12	75	22	14	83		===	6	79	16	35
terresteri	Maintenance (In Port)	73	13	12	78		14	80		6	6	17	=	35

Table F.5. Station Cape May: Current 47-Foot MLB compared with ideal MLB.

				RATING	NG									
	0 2	Seamen			Boats	Boatswain's Mates			Engineers	2		85	Station	A Sage Sales
Operational Focal Point	×	CS	Z		bx	as	Z,	×	S	Z		×	æ	z
Missien	83	ę	=	<u> </u>	86	9	14	89	7	6	8	98	7	32
. Search	\$2	4	12	∞	85	9	12	89	S	6	<u> </u>	986	02	33
. Rescue	88	10	12	00	87	5	12	92	7	6	<u> </u>	88	∞	33
Maritime Law Enforcement	95	g ag	12	0 0	84	18	12	98	6	œ		85	13	32
. Port Safety and Security	90	6	=	_ ~	85	7	12	86	7	00		83	000	31
- Marine Environmental Response	500	0	4	o c	84	οc	12	98	5	6	<u>∞</u>	84	∞ ∞	32
Recreational Boating Safety	82	13	12	00	% 42	<u>8</u>	12	87	∞	8		48	14	32

X = mean SD = standard deviation N = number of crew members responding

APPENDIX G:

47-Foot MLB compared to current 44-Foot MLB across all stations

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Table G. 47-Foot MLB compared to current 44-Foot MLB across all stations.

OPERATIONAL FOCAL POINT	X	SD	N. N.
Heavy Weather Operations	1.5	0.4	102
Calm Weather Operations	1.7	0.3	102
Surf Operations	1.4	0.4	97
Towing (Aft)	1.6	0.4	102
Towing (Alongside)	1.4	0.5	102
Personnel Recovery	1.6	0.4	102
Piloting/Navigation	1.7	0.3	101
Mooring	1.3	0.4	101
Anchoring (Own Boat)	1.5	0.4	101
(De) Anchoring (Other Boat)	1.3	0.3	100
Firefighting (Own Boat)	1.2	0.4	102
Firefighting (Other Boat)	0.9	0.4	102
Alongside Operations	1.4	0.4	102
Helicopter Operations	1.3	0.4	102
Maintenance (Underway)	1.3	0.4	101
Maintenance (In Port)	1.3	0.4	100
Mission	1.7	0.2	100
Search	1.7	0.2	102
Rescue	1.7	0.2	102
Maritime Law Enforcement	1.5	0.4	100
Port Safety and Security	1.4	0.4	99
Marine Environmental Response	1.4	0.4	99
Recreational Boating Safety	1.5	0.4	101

Key:

 \overline{X} = Mean

SD = Standard deviation

N = Number of crew members responding

Values:

0.5 = 47-Foot MLB 1/2 as good as 44-Foot MLB

1.0 = 47-Foot MLB equal to 44-Foot MLB

2.0 = 47-Foot MLB twice as good as 44-Foot MLB

Table G-1. Station Gregon Inlet: 47-Foot MLB compared to current 44-Foot MLB.

				RATING	INC					1. The second			
		Seamen		Bo	Boatswain's Mates			Engineers	90		8	Station	
Operational Focal Point	ίχ	SD	z	þx	SD	2	×	SD	z		×	8	Z
Heavy Weather Operations	1.3	0.5	5	1.4	0.4	7	1:1	0.4	9		1.3	0.4	<u>8</u>
Calm Weather Operations	1.9	0.1	5	1.6	0.3	7	4.1	0.5	9		9.1	 1	<u>∞</u>
Surf Operations	£.13	0.4	S	1.0	0.3	7	1.1	0.4	9	12-4-1 	-	0. ¢	(2C)
Towing (Aft)	<u>~</u>	0.3	S	4.	0.4	7		0.2	9	<u>.</u>	₹.	0.4	18
Towing (Alongside)	4.1	0.7	ν,	٠ <u>.</u>	0.4	7	1.0	0.2	9	9441	٤.	0.5	<u> </u>
Personnel Recovery	1.7	0.3	3		0.4	7	1.3	0.4	9	.pmmq	1.3	0.4	<u>∞</u>
Pijoting/Navigation	1.7	0.4	5	1.8	0.2	7	1.6	0.3	6	*****	1.7	0.3	<u>∞</u>
Mooring		0.4	5	,i	0.3	7	1.0	0.2	9		1.1	0.3	00
Anchoring (Own Boat)	1.4	9.0	S	1.4	0.3	r-	1.5	0.4	9	***	4.	0.4	00
(De) Anchoring (Other Boat)		0.4	5	1.2	0.2	7	Ξ	0.2	5	44.1	1.2	0.3	1
Firefighting (Own Boat)	4.1	9.0	ري	1.3	0.3	- 1	1.2	0.4	9		هن	0.4	100
Firefighting (Other Boat)	8.0	0.2	40		0.3	7	0.9	0.2	6	ပ	6.0	0.3	8
Alongside Operations	1.3	9.0	5	1.2	0.1	7		0.2	ę		6.3	0.3	30
Helicopter Operations	1.7	0.4	8	1.3	0.4	7	1.2	0.2	9	9404	4	0.4	90
Maintenance (Underway)	1.2	0.4	5	1.2	0.3	i	0.1	0.2	9	ensn	C.	0.3	<u>∞</u>
Maintenance (In Port)	4.	0.4	v	1.0	0.1	7	County County	0.2	9			0.3	80

Table G-1. Station Oregon Inlet: 47-Foot MLB compared to current 44-Foot MLB.

Operational Focal Point X SEA N X SEA SEA N X SEA		Andreas en de servicio per que de de manadamen. Se por distribución de des senon major qui des de come exercismo de				RAT	RATING	 - 1						to South		2.31
Operational Focal Fool Informational Fool Informational Boaring N X SD SD		The second secon	ເກ	eamen	" (C), a reg the the directed of the		alswain Mates		Den son en en en en en en en en en en	E	1304		en district Mills and all	<i>3</i>		
Mission I.8 0.1 5 I.4 0.1 7 I.4 0.2 6 I.5 6 I.5 • Search I.7 0.1 5 I.5 0.2 7 I.5 0.3 6 I.6 • Rescue I.7 0.1 5 I.3 0.3 7 I.5 0.3 6 I.5 • Maritime Law I.4 0.6 5 I.3 0.3 7 I.4 0.3 6 I.3 • Port Safety and Security I.4 0.4 5 I.3 7 I.3 0.3 6 I.3 • Marine Environmental I.5 0.3 5 I.1 0.3 7 I.3 0.3 6 I.3 • Response • Recreational Boaring I.4 0.5 5 I.3 7 I.4 0.4 6 I.4 • Safety Safety I.3 0.3 7 I.4 0.4 6 I.4	Committee of the commit	Uperational Focal Pol t	١x	SE	z	bx	G	z			8	K	***			2. T
. Search 1.7 0.1 5 1.5 0.2 7 1.5 0.3 6 1.6 . Rescue 1.7 0.1 5 1.5 0.1 7 1.5 0.3 6 1.5 . Maritime Law 1.4 0.6 5 1.3 0.3 7 1.4 0.3 6 1.3 . Port Safety and Security 1.4 0.4 5 1.3 0.3 7 1.3 0.4 6 1.3 . Marine Environmental Response 1.5 0.3 5 1.1 0.3 7 1.3 0.3 6 1.3 . Response 1.4 0.5 5 1.3 0.3 7 1.4 0.4 6 1.4 . Recreational Boaring 1.4 0.5 5 1.3 0.3 7 1.4 0.4 6 1.4	and the state of t	Mission	∞ :	0.1	S	4	0.1			-).2	v)	. presi	w,	0.3	2
Pescue 1.7 0.1 5 1.5 0.1 7 1.5 0.3 6 1.3 Partitime Law 1.4 0.6 5 1.3 0.3 7 1.4 0.3 6 1.3 Port Safety and Security 1.4 0.4 5 1.3 0.3 7 1.3 0.4 6 1.3 Response Response 1.4 0.5 5 1.3 0.3 7 1.4 0.4 6 1.3 Recreational Boaring 1.4 0.5 5 1.3 0.3 7 1.4 0.4 6 14	THE PARTY OF THE P	. Search	1.7	3	S	2.5	0.2	7	-		3.3	9	LONG TO SERVICE AND ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF THE PERSON ADDRESS OF	رة. 	0.2	980
· Maritime Law 1.4 0.6 5 1.3 0.3 7 1.4 0.3 6 1.3 · Port Safety and Security 1.4 0.4 5 1.3 0.3 7 1.3 0.4 6 1.3 · Marine Environmental Response 1.5 0.3 5 1.1 0.3 7 1.3 0.3 6 1.3 · Response Safety 1.4 0.5 5 1.3 0.3 7 1.4 0.4 6 1.4	and the control of th	· Rescue	r :	0.1	5	£.5	0.1	۲۰۰	49-14-4 		0.3	9	Total of Vincenter	κ.i	25	3/2
14 1.5 0.3 5 1.3 0.3 7 1.3 0.4 6 1.3 1.3 1.4 0.5 5 1.3 0.3 7 1.4 0.4 6 1.4	mente per a special de la companya d	· Maritime Law Enforcement	şural .	9.0	U ~3	(4°)	6.3	-	derent and model	in).3	ی	gymtap D-ctypyphothiarcoan-b o	w.)	7 0	200
Marine Environmental 1.5 0.3 5 1.1 0.3 7 1.3 0.3 6 1.3 Response • Recreational Boaring 1.4 0.5 5 1.3 0.3 7 1.4 0.4 6 1.4 Safety	en al majore services	Port Safety and Security	4	0.4	5	1.3	0.3	۲			<u>5.</u>	9				22
Recreational Boaring 1.4 0.5 5 1.3 0.3 7 1.4 0.4 6 1.4 Safety	G-5	Marine Environmental Response	Š.	0.3	٧٦	and and and and a	£0	1	gaskij		9.3	ý	greet	re')	3	JRS
	The second second second	· Recreational Boaring Safety	***	0.5	۲)	<u> </u>	83	(~-	gainij		0.4	Ŷ	Services	19, (-11-11-11-11-11-11-11-11-11-11-11-11-11	T.	est.

X = mean SD = standard deviation N = number of crew members responding

Table G-2. Station Tillamook: 47-Foot MLB compared to current 44-Foot Nt. B.

time the same of	The second secon				RATING	ING								
g is their opposer is a "hi made by sider in "hi Juga "high digney punner i that did made and in a their	, i	<i>U3</i>	Seamen			Busterain's Nates	46							
Park Along Editorishinan	Operanonal Focai Foint	ĺχ	S	z	b¢	GS.	z		8					
e in de de la company	Heavy Weather Operations	1.2	0.4	5	*:	0.4	12	4:1	0.4	Q	8	4.	6.5	23
nt. menustr	Calm Weather Operations	1.6	6.4	5	1.8	0.3	12	1.9	0.1	9		æ3	6.9	23
and the	Surf Operations	1.2	0.4	5	7.7	0.4	12	1.5	0.3	9			0.4	123
ale steen	Towing (Aft)	1.6	0.4	S	4.	6.0	12	1.6	0.3	÷		٠. دن	0.4	67
Catholic Millions	Towing (Alongside)	,	9.0		1:6	0.4	12	 	0.3	9		1.5	0.4	53
	Personnel Recovery	1.7	0.4	ۍ.	1.6	0.4	12	1.4	0.5	9		9.1	0.4	12
	Piloting/Navigation	1.6	9.0	~	1.6	0.3	12	1.4	0.5	9		9.	70	23
······································	Mooring	******	0.4	v7	<u></u>	0.4	2	1.2	0.3	9		67	0.4	23
eren karen pri	Anchoring (Own Boat)	1.5	0.5	S	1.5	6.4	12	1.3	0.4	Ş	A ME AND PROPERTY.	1.5	Š	23
eneny.	(De) Anchoring (Other Boat)	1.2	0.4	~	1.2	0.3	12	1.3	0.4	9	Augustalius war	1.2	6.3	23
	Firefighting (Own Boat)	1.3	0.5	S	1.4	0.5	12		0.5	9	(4) no is to broken to	.33	6.5	44 5)
and the Aut	Firefighting (Other Boat)	1.2	9.0	2	7.	0.6	12	pare!	0.5	9	Ma saussesd	95.14	0.5	53
n. ozoda	Alongside Operations	<u></u>	0.4	5	1.6	0.3	12		0.2	9		1.4	Ç.4	23
	Helicopter Operations	3	0.5	2	C-1	0.4	7.7	1.3	0.4	9		رم) رمع)	0.4	23
	Maintenance (Underway)	5.	0.5	42)	1.2	0.3	2	1.2	0.3	9			0.4	23
	Maintenance (In Port)	9.1	0.4	v.	1.3	4.0	,	0.1	0.3	8		رت ^ب	0.4	22

Table G.2. Station Tillamook: 47-Foot MLB compared to current 44-Foot MLB.

Operational Focal Point X Someth N X Str. N X Str. N X Str. N X Str. Str.<					Z.	RATING							1 1911
ational Focal Point X SD N		43	катеп			ostrwa! Mates	10			8		1	and a
ch 1.7 6.2 5 1.7 6.2 11 1.6 0.3 6 1.6 cue 1.7 0.4 5 1.6 0.3 12 1.6 0.3 6 1.6 time Law 1.4 0.4 4 1.6 0.3 12 1.5 0.4 6 1.5 Safety and Security 1.5 0.4 5 1.5 0.3 12 1.4 0.4 6 1.5 Safety and Security 1.5 0.4 5 1.5 0.3 12 1.4 0.4 6 1.5 conserved 1.4 0.5 4 1.4 0.4 1.5 0.4 6 1.5 points 1.5 0.5 4 1.4 0.4 1.5 0.3 6 1.4 restrional Boating 1.5 0.5 4 1.6 0.3 1.5 0.3 6 1.5 restrional 1.5 <	Operational Focal Point	bc	œ	Z	bx			1x	8	E.			z
1.7 0.4 5 1.6 0.3 12 1.6 0.3 6 1.6 1.6 0.4 5 1.6 0.3 12 1.6 0.3 6 1.6 1.4 0.4 4 1.6 0.3 12 1.5 0.4 6 1.5 1iy 1.5 0.4 5 1.4 0.4 1.7 1.4 0.4 6 1.5 1i 1.4 0.5 4 1.4 0.4 12 1.3 0.4 6 1.4 15 0.5 5 1.6 0.3 12 1.5 0.3 6 1.5	Mission	1.7	6.2	5	1.7	0.2	=	1.6		9	1.6	0.3	22
1.6 6.4 5 1.6 0.3 12 1.6 0.3 6 1.6 1.6 1.5 1.5 0.4 6 1.5 1.5 1.5 1.5 0.4 6 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.4 0.4 1.5 1.4 0.4 6 1.4 1.4 1.4 0.4 1.2 1.3 0.4 6 1.4 1.4 1.4 1.4 0.4 1.5 1.4 1.4 1.4 0.4 1.5 1.4 1.4 1.4 0.4 1.5 1.4 <td< td=""><td>. Search</td><td>1.7</td><td>0.4</td><td>VO</td><td>9.1</td><td></td><td>12</td><td>1.6</td><td></td><td>9</td><td>1.6</td><td>0.3</td><td>23</td></td<>	. Search	1.7	0.4	V O	9.1		12	1.6		9	1.6	0.3	23
ity 1.5 0.4 4 1.6 0.3 12 1.5 0.4 6 1.5 ity 1.5 0.4 5 1.5 0.3 12 1.4 0.4 6 1.5 it 1.4 0.5 4 1.4 0.4 12 1.3 0.4 6 1.4 1.5 0.5 5 1.6 0.3 12 1.5 0.3 6 1.5	· Rescue	9.1	6.4	٨.	9.1		12	1.6		9	9.1	0.3	23
riy 1.5 0.4 5 1.5 0.3 12 1.4 0.4 6 1.5 ii 1.4 0.5 4 1.4 0.4 12 1.3 0.4 5 1.4 1.5 0.5 5 1.6 0.3 12 1.5 0.3 6 1.5	. Maritime Law Enforcement	4.	0.4	4	9.1		12	¥')		9	· .	0.3	22
ii 1.4 0.5 4 1.4 0.4 12 1.3 0.4 5 1.4 1.5 0.5 5 1.6 0.3 12 1.5 0.3 6 1.5	. Port Safety and Security	1.5	0.4	5	1.5		12	1.4		ę	1.5	0.3	23
1.5 0.5 5 1.6 0.3 12 1.5 0.3 6 1.5	. Marine Environmental Response	4.	0.5	4	4.		12	### [6.2]		9	4	6.4	22
	Recreational Boating Safety	5.1	0.5	\$	9.1		12	2.1		9	1.5	0.3	23

X = mean SD = standard deviation N = number of crew members responding

Table G-3. Station Umpqua River: 47-Foot MLB compared to current 44-Foot MLB.

					RATING	NC ENC						X.	ly well of	
		(S)	Seamen		A A	Boatswaln's Motos	ņ							or: (i
	Operational Focal Point	ΙX	as	Z	b ×	33	Z	bx	G.	×				
	Heavy Weather Operations	1.7	0.3	∞	1.5	0.3	7	1.4	0.5	7		9:	0.4	22
	Calm Weather Operations	1.7	0.4	∞	1.9	0.2	7	1.8	0.4	7		8 0.	0.3	22
	Surf Operations	1.5	0.4	သင	1.5	0.4	9	1.5	0.5	9	_	.5	0.4	20
	Towing (Aft)	2 - 2 	9.4	oc	1.7	0.2	7	8.1	0.3	7		7.	0.3	22
	Towing (Alongside)	1.5	0.5	တ	1.6	0.5	7	1.3	0.5	7		4.	0.5	22
	Personnel Recovery	1.7	0.3	œ	1.8	0.1	7	1.3	9.0	7	,	9:	0.5	22
G-8	Piloting/Navigation	1.8	6.3	œ	1.9	0.2	7	1.8	0.3	7		∞	0.3	22
3	Mooring	1.4	0.4	∞	1.3	0.5	7	1.5	0.5	7		4.	0.4	22
	Anchoring (Own Boat)	1.4	9.0	∞	4.	9.4	7	1.5	0.5	7		4.	0.5	22
- Treese Star	(De)Anchoring (Other Boat)	1.1	0.3	%	1.2	0.2	7	1.2	0.2	7		77	0.2	22
	Firefighting (Own Boat)	1.2	0.3	∞o	4.	9.4	r.	0.8	0.3	7			0.4	22
	Firefighting (Other Boat)	0.9	0.5	œ	0.9	0.5	7	0.6	0.1	۲-	9	œ.	0.4	22
	Alongside Operations	1.5	0.3	∞	1.5	0.5	7	4.1	0.5	7		4	0.4	22
	Helicopter Operations	1.3	9'0	∞	1.5	0.5	7	1.4	0.4	7		4.	0.5	22
	Maintenance (Underway)	1.4	0.4	,	1.4	0.4	7	5.1	0.4	7		4.	0.4	21
	Maintenance (In Port)	4 .	0.5	∞		0.2	7		0.2	9		2	6.3	21
												!		

Table G-3. Station Umpqua River: 47-Foot MLB compared to current 44-Foot MLB.

					RAJ	RATING								
	,	<i>6</i> 2	Seamen		Z	Boatswain's Mates	3,1		Ragina					
	Operational Focal Foint	iχ	SD	z	bc	8	z	be	8	×	<u> </u>	To.	8	2
	Mission	1.0	0.1	80	1.7	0.2	7	1.7	0.5	9	1	1.7	0.2	21
	· Search	1.8	0.2	00	œ.	6.2	7	1.8	0.2	7		 8.	0.2	22
	· Rescue	1.8	0.1	∞	1.7	0.2	7	1.7	0.3	Ĺ		1.8	0.2	22
	· Maritime Law Enforcement	1.6	0.4	œ	1.3	0.4	7	2.1	0.3	7		5:1	Ü.4	22
	· Port Safety and Security	1.4	0.5	7	1.2	0.2	7	1.5	0.4	7	<u> </u>	4.1	0.4	21
G-9	· Marine Environmental Response	1.6	0.4	7	1.2	0.3	7	1.6	0.3	7		1.5	0.4	2!
} }	· Recreational Boating Safety	1.5	0.4	8	1.3	0.4	ľ~	1.7	6.3	7		1.5	0.4	22

X = mean
 SD = standard deviation
 N = number of crew members responding

Table G-4. Station Gloucester: 47-Foot MLB compared to current 44-Foot MLB.

ALL RESTREET VA. VIII			٠	·	RATING	ING			Ö						40.7 57.8
***************************************		S.	Scamen		Boa	Boatswaln's Mades			1	E					and the same
No. of the last of	Operational Focal Point	ΙX	SD	Z	×	8	Z				WE.	D. T.			×
	Heavy Weather Operations	1.7	0.3	4	1.7	0.1	S		5.	0.5	\$	1.6	0	<u>س</u>	14
	Calm Weather Operations	1.8	0.2	4	1.7	0.2	5		9 0	0.1	5	80		0.2	14
	Surf Operations	1.7	0.2	4	 	0.2	3		.5 0	0.5	٠'n	1.6		0.4	12
	Towing (Aft)	1.8	0.3	4	1.7	0.5	\$			0.2	5	1.7		0.3	7
	Towing (Alongside)	1.2	0.5	4	œ.	0.2	2		4.	0.5	\$	5.	MONT ON PA	6.5	\$ THE
G-	Personnel Recovery	1.6	0.3	4	6.1	0.2	S	9.		0.4	v)	7.	Ġ.	وم	†
10	Piloting/Navigation	1.6	0.4	4	27	Ö	S	1.7	***************************************	0.4	4	1.7	2.) (mar et 20 et 10	0.3	13
	Mooring	1.4	0.3	4	4.	6.4	w	1.3		9.0	4	74		0.4	13
Ami and T	Anchoring (Own Boat)	1.8	0.3	₹1	9.	0.4	S			0.3	4			0.3	13
	(De)Anchonng (Other Boat)	53	0.3	4	4.	0.3	S		5 0	0.5	S		0	3	14
	Firefighting (Own Boat)	1.1	0.3	4	9.1	0.4	5		9.	0.4	5	·····		0.4	4
-	Firefighting (Other Boat)	6.9	0.4	4	0.8	0.2	S			0.4	4 7)	0	0	3	14
	Alongside Operations	1.4	9.0	-4	1.6	0.2	v		9:	0.4	w)	, <u>,</u>	Č.	٧.	14
	Helicopter Operations	1.1	0.3	-1	1.3	0.3	2			0.3	'n	14.		0.4	4.
	Maintenance (Underway)	1.4	0.4	4	1.2	0.2	5		4.	0.5	8	C:		4.0	14
	Maintenance (In Port)	1.1	0.3	4	pana y hazari	0.4	\$	2.		0.3	\chi_0	7.1		0.3	44

Table G-4. Station Gloucester: 47-Foot MLB compared to current 44-Foot MLB.

						NA SELVE		, and the second		2						
, man' (Yes), Companyoto, Milyb		<i>0</i> 2	Seamen	,	ngga gali 1986ga ngiannag yan dang	8	Boerswafn's Mates		a i memenu metan						1	
m metr era u mere sand de	Uperational recal Point	×	SD	Z,		96	13	z	1	bx	8	E	The second secon		B) z
	Mission	1.9	1.0	ग्व		1.9	0.1	5	1	12	0.3	5		81	0.2	7 7
	· Search	1.6	0.2	ঘ		1.9	0.1	5	<u> </u>	30	0.2	3		80:1	0.2	14
anther L. Phillip	. Rescue	80.	0.1	4	ong kalenda ang pangang	1.9	0.1	5	1	1.7	0.4	5	.	8.	0.2	7
	· Maritime Law Enforcement	***	0.5	4	d-apt-	. <u>.</u>	0.2	٧٦		9.1	0.4	\$		67	4.0	7
	· Port Safety and Security	1.6	0.5	4		-	6.3	~	1	1.5	0.5	S		5	0.4	7
G-11	· Marine Environmental Response	9.1	0.3	4	in white 20 CM PERSON SECTIONS OF	5.	0.4	w)	Marie and designed desired	<u>~</u>	9.0	~		1.5	0.4	4
	 Recreational Boating Safety 	1.3	0.5	च		1.6	0.3	'n	<u>L</u>	9.	0.4	S		5.5	4.0	**
															A CONTRACTOR OF THE PARTY OF TH	

 \vec{X} = mean SD = standard deviation SD = number of crew members responding

Table G.5. Station Cape May: 47-Foot MLB compared to current 44-Foot MLB.

			-						The same					
The second secon	· 6]	Seamen		.	Bostswaln's Mates									
Operational Focal Point	×	as	Z	×	8	7.		**				1		
Heavy Weather Operations	4.	0.4	10	1.5	0.2	10		1.6	0.4	5			0.4	23
Calm Weather Operations	1.7	0.4	10	1.7	0.2	10		1.7	0.4	5		1.7	0.3	25
Surf Operations	1.3	0.5	10	1.3	0.3	02		1.5	0.6	4	e e e e e e e e e e e e e e e e e e e	1.3	0,4	24
Towing (Aft)	· .	0.4	01	1.5	0.3	10		1.8	0.2	5		1.6	0.4	25
Towing (Alongside)	4.	0.3	01	1.6	0.4	10		ĸ.	9.0	ur¬,		5.1	0.4	2,5
Personnel Recovery	1.7	0.2	10	1.5	0.3	10	<u> </u>	1.6	0.5	ۍ		1.6	0.3	25
Piloting/Navigation	6.1	0.1	5	<u></u>	0.3	10		1.8	0.2	5		1.8	0.2	25
Mooring	1.5	0.4	10	1.3	0.3	2		£.	0.2	ς,		9744	0.4	25
Anchering (Own Boat)	8	0.2	02	9.	0.3	10		1.7	0.4	5		1.7	0.3	25
(De) Anchoring (Other Boat)	1.5	0.3	10	1.3	0.3	0		1.4	0.4	5		\$.	6.4	24
Firefighting (Own Boat)	6.0	0.4	0:		0.3	10		0.1	0.5	5		1.0	6.4	25
Firefighting (Other Boat)	0.8	0.3	9	6:0	0.3	9		9.8	9.0	3		9.0	0.4	25
Alongside Operations	9:1	0.3	2	1.5	0.3	10	1	1.7	0.3	\$		1.6	0.3	25
Helicopter Operations	* 1	0.5	9	=	0.3	01		9.1	9.0	5	1	1.3	0.5	25
Maintenance (Underway)	£.5	0.4	2	1.2	0.4	02	j	9.1	0.4	\$		1.3	0.4	25
Maintenance (In Port)	£. <u>.</u>	0.4	10	1.4	63	92		œ.	0.2	ũ		1.4	0.3	25
	g (Aft) g (Aft) g (Alongside) nel Recovery ng/Navigation nchoring (Own Boat) hting (Own Boat) hting (Own Boat) hting (Own Boat) side Operations pter Operations nance (Underway)	ai)	11.7 11.7 11.8 11.8 11.8 11.6 11.6 11.6 11.3	at) 1.5 0.4 1.7 0.2 1.8 0.4 1.8 0.2 1.8 0.3 1.4 0.3 1.5 0.3 1.6 0.3 1.4 0.5 1.3 0.4 1.	at) 1.5 0.4 10 11 1.5 0.4 10 11 1.5 0.4 10 11 1.5 0.4 10 11 1.5 0.4 10 11 1.5 0.3 10 11 1.5 0.9 0.4 10 11 1.5 0.3 10 11 1.5 0.3 10 11 1.5 0.3 10 11 1.5 0.3 10 11 1.5 0.4 10 11 1.3 0.4 10 11 1.3 0.4 10 11	a) 1.5 0.4 10 1.5 1.6 1.7 1.8 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.5 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.1 1.0 1.1 1.1	a) 1.5 0.4 10 1.5 0.3 10 1.5 0.3 10 1.5 0.4 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.3 0.4 10 1.3 0.4 10 1.3 0.4 10 1.3 0.4 10 1.3 0.4 10 1.4 0.3	a) 1.5 0.4 10 1.5 0.3 10 1.5 0.3 10 1.5 0.4 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.5 0.3 10 1.1 0.3 10 1.3 0.4 10 1.3 0.4 10 1.3 0.4 10 1.3 0.4 10 1.4 0.3	1.3 0.5 10 1.3 0.3 10 1 1.5 0.4 10 1.5 0.3 10 1 1.4 0.3 10 1.5 0.3 10 1 1.7 0.2 10 1.5 0.3 10 1 1.9 0.1 10 1.7 0.3 10 1 1.8 0.2 10 1.3 0.3 10 1 1.8 0.2 10 1.3 0.3 10 1 1.9 0.4 10 1.3 0.3 10 1 0.9 0.4 1.0 1.1 0.3 10 0 0.9 0.4 1.0 1.1 0.3 10 0 1.4 0.5 1.0 1.1 0.3 10 1 1.3 0.4 10 1.1 0.3 10 1 1.3 0.4 10 1.4 0.3 10 1	1.3 0.5 10 1.3 0.3 10 1.5 1.4 1.5	1.3 0.5 10 1.3 0.3 10 1.5 0.6 1.7 0.4 1.5 0.4 10 1.5 0.3 10 1.8 0.2 1.4 0.3 10 1.6 0.4 10 1.8 0.2 1.7 0.2 10 1.5 0.3 10 1.8 0.2 1.8 0.2 10 1.5 0.3 10 1.7 0.4 1.8 0.2 10 1.5 0.3 10 1.7 0.4 a.) 1.5 0.3 10 1.5 0.3 10 1.7 0.4 a.) 1.5 0.3 10 1.1 0.3 10 1.7 0.4 a.) 1.6 0.3 10 1.1 0.3 10 1.6 0.5 a.) 1.6 0.3 10 1.7 0.3 10 1.7 0.3 a.) 1.6 0.3 </td <td>1.3 0.5 10 1.3 0.3 10 1.5 0.6 1.7 0.4 1.5 0.4 10 1.5 0.3 10 1.8 0.2 1.4 0.3 10 1.6 0.4 10 1.8 0.2 1.7 0.2 10 1.5 0.3 10 1.8 0.2 1.8 0.2 10 1.5 0.3 10 1.7 0.4 1.8 0.2 10 1.5 0.3 10 1.7 0.4 1.8 0.2 10 1.5 0.3 10 1.7 0.4 1.8 0.2 10 1.5 0.3 10 1.7 0.4 0.9 0.4 1.0 1.1 0.3 10 1.6 0.5 0.8 0.3 1.6 0.9 0.3 10 1.7 0.3 1.4 0.5 0.0 1.1 0.3 10 1.7<</td> <td> 1.3 0.5 10 1.5 0.3 10 1.5 0.6 4 1.5 0.4 10 1.5 0.3 10 1.5 0.6 5 1.5 0.4 10 1.5 0.4 10 1.5 0.3 10 1.5 0.5 5 1.5 0.4 10 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 0.5 1.5 0.5</td> <td> 1.5 0.5 10 1.5 0.3 10 1.5 0.6 4 1.5 1.</td>	1.3 0.5 10 1.3 0.3 10 1.5 0.6 1.7 0.4 1.5 0.4 10 1.5 0.3 10 1.8 0.2 1.4 0.3 10 1.6 0.4 10 1.8 0.2 1.7 0.2 10 1.5 0.3 10 1.8 0.2 1.8 0.2 10 1.5 0.3 10 1.7 0.4 1.8 0.2 10 1.5 0.3 10 1.7 0.4 1.8 0.2 10 1.5 0.3 10 1.7 0.4 1.8 0.2 10 1.5 0.3 10 1.7 0.4 0.9 0.4 1.0 1.1 0.3 10 1.6 0.5 0.8 0.3 1.6 0.9 0.3 10 1.7 0.3 1.4 0.5 0.0 1.1 0.3 10 1.7<	1.3 0.5 10 1.5 0.3 10 1.5 0.6 4 1.5 0.4 10 1.5 0.3 10 1.5 0.6 5 1.5 0.4 10 1.5 0.4 10 1.5 0.3 10 1.5 0.5 5 1.5 0.4 10 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.3 10 1.5 0.5 5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 1.5 0.5 0.5 1.5 0.5	1.5 0.5 10 1.5 0.3 10 1.5 0.6 4 1.5 1.

Table G-5. Station Cape May: 47-Foot MLB compared to current 44-Foot MLB.

					RATING	2							4		
	472	Seamen		**************************************	Bond	Boetswain's Mates		of growing?	a.				8	4	
Operational Focal Point	×	αs	2		be	8	z		×	8	z;		L	i as	ź
Mission	1.6	0.3	10	<u> </u>	1.7	0.2	10	<u> </u>	œ; -	0.1	5	<u>L</u>	7:1	0.2	25
· Search	1.7	0.2	0		7.	0.2	10	***************************************	1.9	0.1	5		7.	0.2	25
· Rescue		0.7	္		1.6	0.2	10		8.1	0.1	5		1.7	0.2	25
· Mantime Law Enforcement	1.5	0.3	9	MARIE NE SHAPERANIA A	V	0.3	9	<u>L</u>	∞ :	0.1	S		5.1	0.3	24
· Port Safety and Security	1.5	0.3	∞		1.3	0.3	10	L	1.7	4.0	5	<u>L</u>	1.5	0.3	23
· Marine Environmental Response	7	0.4	Ø	PORT III III III III III III III III III I	emit Gali	0.3	0	lang is 1.07% emissional de 1984 % de 1	8.	0.2	5		4.1	0.4	24
- Recreational Boating Safety	7.	0.4	C	aurio en 1904 de de desembro la		4.0	9		1.7	0.4	V)		4.	0.4	24

X = mean SD = standard deviation N = number of crew mer

= number of crew members responding

APPENDIX H:

Evaluation of problem or wish list items across all stations

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Table H. Evaluation of problem or wish list items across all stations.

PROBLEM OR WISH LIST ITEM			N
DBCK			A STATE OF THE STA
Aft Hatch	0.9	1.3	120
Chocks	1.8	1.8	120
Bitts	1.4	1.7	120
Tow Reel/Tow Bitt	0.9	1.5	120
Spot Light	2.1	1.9	120
Pickup Port/Grating	2.1	1.8	120
Non-skid Pads	3.0	2.0	120
Paint	2.7	20	120
Aft Deck Space	1.0	1.4	120
D-rings	1.4	1.7	12C
Handholds	1.5	1.7	120
Rub Rails	1.2	1.6	120
Forward Hand Rails	1.4	1.7	119
Firefighting Equipment	3.6	1.8	120
ENGINE ROOM			
Deck Flates	2.2	2.0	119
Tool Box	1.3	1.8	119
Bilge Pump indicator	1.8	2.1	117
Space	1.2	1.6	119
Sea Strainer (Checks)	1.9	1.9	117
Lazarette Hatch	3.2	2.0	119
Fuel Capacity	1.6	1.9	119
FLYING BRIDGE			
External Speakers	1.9	1.9	119
Radar Protective Door	1.8	1.8	119
Microphone Box	2.5	2.0	119
Steering/Throttle	2.6	2.0	118
Crew Member Seats	1.4	1.7	119
Communication Equipment	2.1	1.8	118
Datum Point	2.2	1.9	119
Protection from Environment	1.7	1.7	119
Instrument Station	1.4	1.7	117
ENCLOSED BRIDGE			
Crew Member Scats	2.9	2.0	119
Defrosters (HVAC)	1.3	1.8	119

Table H. Evaluation of problem or wish list items across all stations.

PROBLEM OR WISH LIST ITEM	X.	SD *	N.
Forward Visibility	0.9	1.2	119
Space	2.1	1.6	119
Electronics	1.7	1.7	119
Global Positioning System (GPS)	3.1	2.2	114
Coxswains' Chairs	1.2	1.7	119
Navigation Area	2.7	1.8	119
FORWARD COMPARTMENT			
HVAC	1.8	2.0	118
Deck Plates	2.4	2.0	120
Use of Space	0.6	1.3	120
SURVIVORS' COMPARTMENT			
Deck Surface	2.2	1.9	120
Deck Plate Fasteners	3.1	2.0	120
Bench Seats	1.3	1.7	120
HABITABILITY			
Hot Cups	1.2	1.9	120
Food and Beverage Storage	2.1	2.1	120
Head	1.9	2.0	119
Area to Rest	1.0	1.4	120
HVAC System	1.4	1.8	119
Weapons Storage	2.1	2.1	118
Interior Insulation	2.5	2.1	120

Key:

 \overline{X} = Mean

SD = Standard deviation

N = Number of crew members responding

Values:

0 = not a problem; ok as it is; not needed

1 = slight problem; might like to have this added; low priority

2

3 = moderate problem; would like to have item added; moderate priority

4

5 = big problem; definitely add this item; high priority

Table H-1. Station Oregon Inlet: Evaluation of problem or wish list items.

							RA	RAFING						
				H			ľ	-			-	1		
PROBLEM OR WISH LIST ITEM	S)	Seamen			Bog	Boatswain's Mates			ā	Engineers			Station	8
	×	ds	Z.	L	×	SD	z	L	t×	as	z	Š.	GS.	z
DECK								4			1			
Aft Hatch	1.3	1.8	9		2.3	8.1	∞		0:1	=	9	1.6	9.1	8
Chocks	2.5	2.1	9	!	1.8	1.7	8	L	2.2	2.1	9	2	1.9	8
Bitts	1.7	1.9	9	LJ	1.5	1.8	80	L	0.1	1.3	9	1 4.	1.6	20
Tow Recl/Tow Bitt	1.3	2.1	9		1.8	2.1	8	L	1.8	1.5	9	1.7	8. 1.	20
Spot Light	3.7	1.5	9		3.8	1.6	8		4.3	9.1	9	3.9	1.5	20
Pickup Port/Grating	3.2	1.8	9		3.4	1.7	80		2.7	1.9	9	3.5	1.7	20
Non-skid Pads	2.7	2.3	9		2.3	2.0	80		1.7	1.2	9	2.2	1.9	20
Paint	1.7	1.9	6	اـــــا	2.0	1.3	တ	<u>L</u> ,	1.7	1.6	9	1.8	3 1.5	702
Aft Deck Space	5.5	1.5	9		1.5	1.1	8		2.0	2.0	9	1.7	7 1.5	20
D-rings	0.7	1.6	9		6.0	1.5	∞		1.7	2.0	9	1.1	1.5	20
Handholds	2.2	1.9	9		1.8	1.8	00	L	1.5	1.6	9	1.8	3 1.7	20
Rub Rails	0.1	1.7	9		1.6	1.6	S.	<u> </u>	0.7	1.2	9	1.2	1.5	20
Forward Hand Rails	 82.	1.8	9		9.0	1.1	œ	L	0.2	0.4	9	6.0	1.3	20
Firefighting Equipment	1.8	1.6	9	L	1.6	2.0	∞ ∞	L	3.2	2.2	9	2.2	2.0	20
ENGINE ROOM														
Deck Plates	1.3	3.8	9		1.3	1.5	ၹ		2.8	2.0	9	1.8	3.1.8	20
Tool Box	1.5	1.6	9		1.8	1.8	œ		2.5	2.7	9	1.9	2.0	20
Bilge Pump Indicator	0:1	2.0	9		1.1	1.6	හෙ	L	2.8	2.3	5	1.5	5 2.0	19
Space	1.2	1.2	9	ل ــــــــــــــــــــــــــــــــــــ		1.6	œ		3.0	1.8	9	1.7	1.7	20
Sea Strainer (Checks)	0.3	0.5	ۍ		1.6	2.3	ထ	han Professional	3.2	2.2	Q.	1.7	7 2.2	20
Lazarette Harch	3.8	1.6	9]	3.8	1.6	&	لــــا	4.5	9.0	9	4.0	4.1	50

Table H-1. Station Oregon Inlet: Evaluation of problem or wish list items.

							RATING	2					(200) (40) (40)
PROBLEM OR WISH LIST ITEM	, w	Seamen			Boatswain's Mates	ie ie			Engineers			Statica	
	×	CS	Z	ba	SD		z	×	GS)	z.	<u> </u>	SD	z
Fuel Capacity	1.3	1.8	9	6.0	_	.5	∞	2.5	2.3	9		1.8	50
FLYING BRIDGE						!							
External Speakers	2.2	2.0	9	2.5	_	C 3	&	8.1	1.5	ç	2.2	1.5	8
Radar Protective Door	8.1	1.6	9	2.	4 1.	5	∞	1.8	1.9	9	2.	1.6	70
Microphone Box	1.5	2.0	9	3.0	_	5.	တ	2.2	1.9	9	2.3	1.7	22
Steering/Throttie	1.6	1.5	5	6:1	9 2.2	2	œ	3.0	1.9	9	2.2	9.	19
Crew Member Seats	2.5	2.7	9	0.5	6.0	6	50	8.0	1.2	ý	1.2	6.1	ន
Communication Equipment	1.2	1.6	5	34.11	.4 1.	.5	∞	1.7	2.3	9	7.	1.7	5
Datum Point Marker	4.7	0.5	Ó	3.1	1		00	3.2	1.7	vo	3.6	*	8
Protection from Environment	2.8	1.7	9	3.9	9 0.8	36	0 0	3.5	1.9	'n	3.5		8
Instrument Station	2.0	2.2	9		8. .i	6:	ж о	2.3	1.4	'n	2.0	1.3	20
ENCLOSED BRIDGE													
Crew Member Seats	4.2	2.0	9	3	4	7.	œ	3.7	2.0	9	3.7	1.8	20
Defroster (HVAC)	2.7	1.9	9	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	.6 1.	6	တဝ	1.3	1.2	9	1.9	1.7	20
Forward Visibility	. S	1.5	9	Amery	4	4.	9 0	1.7	0.1	Ş	9.1	5 1.3	20
Space	3.0	S. 1	9	2.	3	9.	යා	3.5	1.0	S)	2.9	1.5	20
Electronics	1.2	1.3	9	0	9 1.	sarraj	တ	1.5	6.1	9	1.2	1.4	20
GPS	3.0	2.4	9	æ,	8.	8.	ထ	2.6	2.5	٧'n	3.2	2 2.1	61
Cexswains Chairs	0.5	1.2	9	ş.an(1.0 1.	eć.	∞	0.5	0.8	9	0.7	7 1.3	20
Navigation Area	3.2	2.1	v	2.	00	<u> </u>	90	3.2	1.3	9	3.0	1.7	20
FORWARD COMPARTMENT													
HVAC	2.0	1.6	S	0.8		.2	8	0:1	1.5	ပ	1.2	2 1.4	61

Table H-1. Station Oregon Inlet: Evaluation of problem or wish list items.

							RA	RATING							
PROBLEM OR WISH LIST ITEM	Ø	Seamen	The state of the s		å	Boatswain' Mates			â	Ergineers			. ca :	Bustles	
	ix	SD	Z	L	×	œ	z		ix	as	Z.	L	×	as	2
Deck Plates	2.0	2.3	9	<u> </u>	8.	1.3	80	L	8.1	2.1	9	<u>. </u>	1.9	8.1	82
Use of Space	2.2	1.8	9	<u> </u>	0.1	6.1	00		9.0	1.3	9	l	1.3	1.8	8
SURVIVORS' COMPARTMENT															
Deck Surface	2.3	2.2	9		2.5	1.5	જ		2.8	2.3	9		2.6	1.9	20
Deck Plate Fasteners	3.3	₽. [9		2.4	2.4	œ		3.8	2.0	\$		3.1	2.0	20
Bench Seats	2.8	1.9	9	L	. I	1.4	œ	L	1.0	2.0	9	L	1.6	20	೫
HABITABILITY															
Hot Cups	0.0	0.0	9		9.0	8.1	ဆ		1.5	2.1	Ó		0.7	3.6	30
Feod and Beverage Storage	2.8		9		1.0	1.6	ဘ		2.3	2.6	9	L	2.0	2.0	20
Head	2.7	2.3	9		5.	1.2	œ		2.6	2.i	\$	ALVANDA IOSA	2.2	1.8	5
Area to Ress	1.7	1.6	9		1.5	1.8	&	L, 200	1.7	1.5	9	L	1.6	1.6	20
HVAC System	1.3	2.2	9		1.8	1.0	8		8.0	1.3	9		4.	5.5	20
Weapons Storage	2.7	2.3	9		2.3	2.1	જ		2.8	2.1	9		2.5	2.1	20
Interior Insulation	ŗ.	2.0	9		1.5	1.7	80		1.8	2.1	9		1.7	6.1	20

State	Scale 0 = not a problem; ok as it is; not needed	Key:	X = mean
	: = slight problem; might like to have this added; low priority		SD = standard deviati
	3 = moderate problem; would like to have item added;	Note:	Seaman apprentices a
	moderate prionity		Technician, who serve
	~		

^{5 =} big problem; definitely add this item; high priority

N = number of crew members responding Seaman apprentices and a Marine Science Technician, who serves as a crew member, were included as Seamen. Fireman apprentices were included as Engineers.

Table H-2. Station Tillamook: Evaluation of problem or wish list items.

To an angle of the second seco							RA	RATING							
PROBLEM OR WISH LIST ITEM	S	Seamen	,		8 00	Boatswain's Mates			A	Engineers			- 4	Station 1	
	ΙX	SD	Z	<u> </u>	Х	SD	z		bx	98	z.	L::	*5%	島	Z
DECK								1	1	1	1]*			
Aft Hatch	2.0	2.1	5	H	9:1	1.5	12		0:	1.3	٤		1.5	1.6	23
Chocks	2.8	1.9	5	<u> </u>	1	2.0	12	<u></u>	3.3	2.6	9	<u> </u>	2.0	2.3	23
Birts	1.0	2.2	5		1.7	1.8	12	L	2.3	<u>«</u> .	9	1	1.7	∞:	23
Tow Reel/Tow Bitt	9.0	1.3	S		9.8	1.6	12	<u> </u>	8.0	2.0	9	<u></u>	0.7	9.1	23
Spot Light	0.2	0.4	Vì		1.3	1.2	12	L	0.1	2.0	10	<u> </u>	0:1	4.	23
Pickup Port/Grating	9.1	2.3	5	ئــــــا	2.8	1.9	12	<u></u>	3.3	2.1	9	<u> </u>	2.7	2.0	23
Non-skid Pads	0.1	2.2	5		1.7	1.4	12		0.1	=	9	<u>L</u>		1.5	23
Paint	2.8	2.6	5		3.7	1.9	12	[3.2	2.1	9	<u></u>	3.3	2.1	23
Aft Deck Space	9.0	1.3	2		1.4	1.7	12		0.3	8.0	9	J	0:1	1.5	23
D-rings	8.0	1.8	'n		2.5	2.2	12		1.3	2.0	9	<u> </u>	œ.	2.1	23
Handhoids	2.2	2.3	5		1.2	1.5	12	<u> </u>	2.0	2.3	9	<u>L</u>	1.5	1.9	23
Rub Rails	0.0	0.0	5		2.5	2.2	12	<u> </u>	0.3	8.0	9		4.	2.0	23
Forward Hand Rails	0.1	2.2	5	!	6.1	j.9	11	L	8.0	1.3	9	<u>. </u>	4.	<u>~</u>	22
Firefighting Equipment	9.0	1.3	5		3.5	1.9	12		3.7	2.0	9	<u></u>	2.9	2.2	23
ENGINE KOOM		. 2				-	*		5.						1
Deck Plates	0.0	0.0	5		8.1	2.0	12		3.5	2.1	9		∞	2.1	23
Tool Box	0.0	0.0	5		=:	1.4	12		8.0	2.0	ó	I	9.0	1.4	23
Bilge Pump Indicator	0:1	2.2	5		2.3	2.1	12		4.2	2.0	9	L	2.5	2.3	23
Space	0:0	0.0	5		1.9	1.9	12		2.2	1.9	9	<u></u>	9:	8.1	23
Sea Strainer (Checks)	0.4	6.0	5		2.3	2.1	12		3.3	2.1	9		2.1	2.1	23
Lazarette Hatch	3.8		5		3.3	2.1	12		رح	0.0	9	<u> </u>	3.9	7.1	23

Table H-2. Station Tillamook: Evaluation of problem or wish list items.

						R.	RATING	y to						
PROBLEM OR WISH LIST ITEM	W)	Scamen			Boatswain's Mates	s,uj		ស្នឹ	Engineers			8 0	Station	
	!×	SD	z	×	CS 3D	Z		×	SD	z		'b¢	SB	Z
Fuel Capacity	0.0	0.0	S	2.3	3 2.3	12		2.8	2.5	9		2.0	2.3	23
FLYING BRIDGE) (ii)
External Speakers	0.0	0.0	5	2.	.5 2.0	12		2.0	2.3	9		2.0	2.1	23
Radar Protective Door	1.8	2.5	ى	3.3	3 1.5	12		1.3	1.8	9		2.5	2.0	23
Microphone Box	1.0	2.2	w)	4.2	2 0.9	12		1.8	2.5	9	<u> </u>	2.9	2.2	23
Steering/Throttle	2.0	2.1	5	3.9	9 1.6	12		3.3	2.1	9		3.3	1.9	23
Crew Member Seats	1.0	2.2	5	1.6	6 1.4	12		1.8	2.5	9	اد دسیها	5	1.9	23
Communication Equipment	9.0	1.3	5	2.1	1 1.5	12		2.5	1.4	9		1.9	1.5	23
Datum Point Marker	2.8	1.8	5	***	.3 1.7	12		1.7	2.6	9		1.7	2.0	23
Protection from Environment	0.4	0.9	5	17000	.3 1.5	12		0.5	1.2	9		6.0	1.3	23
Instrument Station	0.2	0.4	5		.4 2.0	12		1.3	2.2	9		1.1	1.8	23
ENCLOSED BRIDGE														* /2 * ****** ****************************
Crew Member Seats	2.0	2.7	5	2.	.8 2.0	12		3.5	1.4	9		2.8	2.0	23
Defroster (HVAC)	0.0	0.0	5	2.4	4 2.1	12		2.0	2.4	9		1.8	2.1	23
Forward Visibility	0.0	0.0	ક	0.8	.8 1.3	12		0.0	0.0	9		0.4	1.0	23
Space	2.6	1.8	5	2.	.4 1.7	12		2.7	2.0	9		2.5	1.7	23
Electronics	9.0	1.3	5	2.8	.8 2.2	12		2.5	1.4	9		2.3	2.0	23
GPS	2.5	2.9	4		3 1.5	12		2.3	2.6	9		3.4	2.2	22
Coxswains' Chairs	9.0	1.3	5		5 1.9	12		1.8	<u>i</u> .8	9		1.4	3.1	23
Navigation Area	4.4	6.0	5	4.3	3 0.9	12		4.2	1.3	9		4.3	1.0	23
	İ													

Table H-2. Station Tillamook: Evaluation of problem or wish list items.

							RAT	RATING						
PROBLEM OR WISH LIST ITEM	65	Seamen			Bos	Bostowaln's Mates				Engineers		***	7	
	×	SD	z		Ι×	as	z		tx	98	Z.	×	B	Z
FORWARD COMPARTMENT														
HVAC	0.0	0.0	45		2.3	2.3	12	2	2.0	2.4	9	1.	2.2	23
Deck Plates	9.0	1.3	S	L	2.3	6:1	12		 &	6.1	9	∞	1.9	23
Use of Space	0.1	2.2	5	<u> </u>	1.0	1.7	12		5	1.2	9	6.0	1.6	23
SURVIVORS' COMPARTMENT								-					4	
Deck Surface	2.0	2.7	5		3.2	1.9	12	2	2.2		9	2.6	2.i	23
Deck Plate Fasteners	3.4	2.1	5	<u> </u>	3.3	2.1	12	4	4.3	9.1	9	3.5	2.0	23
Bench Seats	0.0	0.0	5	<u> </u>	2.8	6:	12	2	2.3	2.6	9	2.0	2.1	23
HABITABILITY			200			**	H.		75		72.	***		
Hot Cups	1.4	2.2	ŝ		2.3	2.1	12	2	2.2	2.5	9	2.1	2.2	23
Food and Beverage Storage	1.4	2.2	5		2.1	2.0	12	7	2.5	2.7	9	2.0	2.2	23
Head	1.0	2.2	5	l	<u>~</u> %:	6.1	12	<u> </u>	8.0	2.0	9	1.4	2.0	23
Area to Rest	0.0	0.0	8C)	L	1.3	1.6	12		1.3	2.2	9	0.1	1.6	23
HVAC System	0.0	0.0	5		2.7	2.0	12		1.2	2.0	9	1.7	2.0	23
Weapons Storage	0.0	0.0	5		1.9	2.2	12	0	0.7	1.2	9	1.2	1.9	23
Interior Insulation	0.0	0.0	\$		3.1	2.2	12	0	0.5	1.2	9	1.7	2.2	23
Scale: 0 = not a problem; ok as it is; not needed 1 = slight problem; might like to have this added, low priority 2 3 = moderate problem; would like to have item added; moderate priority 4 5 = big problem; definitely add this item; high priority	is added, low e item added; thigh priority	low prior ded; ority	ity		Key: Note:	X Sz S E * *	= mean = standa = numbe unan app innician, re include	X = mean SD = standard deviation N = number of crew members responding Seaman apprentices and a Marine Science Technician, who serves as a crew member, were included as Seamen. Fireman appren	on membe nd a Mi es as a ner. Fi	rs respondia Screw mk	bers responding Marnie Science a crew member, Fireman apprentices	្		

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Table H-3. Station Umpqua River: Evaluation of problem or wish list items.

							RATING	NG							
PROBLEM OR WISH LIST ITEM	82	Searnen			Boar	Boatswain's Mates			ā	Engineers			72	State Sta State State State State State State State State State State Sta Stae Sta Stae Stae	
	×	SD	z		bx	SD	Z	-	b¢	8	z		ķ	S,	7
DECK													.		
Af' Hatch	1.0	1.3	∞		0.i	9.4	-		0.7	1.3	7		9.0	Ξ	22
Chocks	9.0	1.1	œ		1.9	1.8	1	L	1.6	œ.	7	L	1.3	1.6	22
Bitts	1.3	2.1	တ		1.4	1.6	7		1.3	1.9	7		1.3	1.8	22
Tow Reel/Tow Bitt	1.1	1.6	æ		0.1	0.4	7	li	0.7	1.5	7		0.7	1.3	22
Spot Light	0.8	1.5	8		0.0	0.0	7		1.9	1.6	7		6.0	1.4	22
Pickup Port/Grating	1.4	1.5	8		6.0	1.1	7		1.6	2.1	7		1.3	1.5	22
Non-skid Pads	4.3	1.4	8		4.0	1.7	7	L	4.0	1.0	7		4.1	1.3	22
Paint	2.9	2.0	80		4.9	0.4	7		3.6	1.8	7		3.7	1.7	22
Afi Deck Space	0.5	6.0	8		9.0	1.5	7		6.0	1.2	7		9.0	1.2	22
D-angs	0.3	0.7	90		0.4	0.8	P ine.		1.6	1.6	7		0.7	1.2	22
Handhoids		1.6	000	1	5.	2.0	7		1.0	1.7	7		1.2	1.7	22
Rub Rails	0.6	1.2	œ		2.7	2.0	7		0.4	8.0	7		1.2	1.7	22
Forward Hand Rails	1.9	1.7	90		2.4	2.3	7		3.1	2.3	7		2.5	2.1	22
Firefighting Equipment	2.8	2.1	∞ ∞		4.6	0.8	7		4.8	0.8	7		4.0	1.6	22
ENGINE ROOM															
Deck Plates	1.6	2.3	ශා		2.0	2.1	7		3.1	2.0	7		2.2	2.1	22
Tool Box	60	1.2	00		6.0	1.5	Ĺ		2.6	1.8	7		1.4	1.7	22
Bige Pump Indicator	0.0	0.0	P. vie		ت .	2.4	7		3.6	1.7	į.		8	2.2	21
Space	9.0	8.	œ		9.	2.1	7		1.0	1.7	7	·	1.0	1.8	22
Sea Strainer (Checks)	0.3	0.8	1-		0.1	1.9	7	i	3.4	£.;	7		1.6	1.9	21
Lazerette Hatch	 	6.1	∞		7.7	6.	!~		4.0	œ. 1.00	1		3.0	2.3	22
											l		İ		

Table H-3. Station Umpqua River: Evaluation of problem or wish list items.

						RATING	ING							
PROBLEM OR WISH LIST ITEM	un.	Seamen		8	Boatswain's Mates			ā	Engineers	z	16.4	- 20	Station	
	lх	œs	Z	×	QS	7.		bx	133	z.		lx.	B	z
Fuel Capacity	0.5	8.0	00	2.1	2.3	7	Mas process	0.1	77	7	1 3	1.2	1.7	22
ALYING BRIDGE			}].	1	
Ехтета! Speakers	2.1	2.1		1.9	6.1	۲-		2.9	2.4	7		2.3	2.1	17
Radar Protective Door		6 !	7	1.9	2.0	-	<u> </u>	2.3	2.1	7	·	8:	2.0	21
Microphone Box	2.9	£.5	-	3.9	1.2	7		3.1		1		3.3	00	21
Steering/Throttle	6.1	2.4	7	3.1	2.3	7		3.4	80	7	Anaragona sa	2.8	2.2	21
Crew Member Seats	12 mg	1.7	7	2.9	2.4	Ĺ		9.0	0.8	۴		1.7	6:1	21
Cominunication Equipment	2.0	1.5	7	1.9	1.5	7		9.1	stet	7	*****	8.1	1.4	21
Datum Point Marker		1.6	7	6.1	2.1	Ĺ		3.3	1.7	7	in weeken	2.9	6:1	21
Protection from Environment	1.0	1.4	7	4.	2.1	Ĺ		1.4	1.6	7	.	1.3	7.1	21
Instrument Station		5.1	-	£.	1.9	7		1.3	1.9	7		1.2	1.7	21
ENCLOSED BRIDGE														
Crew Member Seats	3.3	2.0	7	2.1	2.3	7		1.1	1.3	7		2.2	2.0	21
Defroster (HVAC)	0.4	1.1	7	6.0	1.9	7		0.4	0.5	7		9.0	1.2	21
Forward Visibility	1.0	1.3	7	0.3	0.5	7		6'0	6.0	7		0.7	0.1	21
Space	1.6	1.6	7	1.4	1.4	Ĺ		1.6	1.4	7	***************************************	1.5	1.4	21
Electronics	0.4	9.0	7	2.3	1.7	7		1.3	1.8	7		1.3	1.6	21
SåD	2.8	2.5	9	4.9	0.4	7		3.7	2.2	7		3.9	2.0	20
Coxswains' Chairs	0.3	0.5	7	2.7	2.0	7		1.0	1.4	7		1.3	1.7	21
Auvigation Area	3.7	1.5	7	3.1	1.8	7		1.0	1.2	7		2.6	1.9	21
FORWARD COMPARTMENT														
HVAC	0.4	0.8	7	1.4	2.1	7		6.0	1.5	7		6.0	1.5	21

Table H.3. Station Umpqua River: Evaluation of problem or wish list items.

						RÅ.	RATING							
PROBLEM OR WISH LIST ITEM	S	Seamen			Rosts Frain Mates	, , ,	***	2	Englace	2		56	1	
	×	SD	Z		as' X	×		Ž.	G)	N,		į.	as	z,
Deck Plates	3.3	2.2	œ	4.3	3 1.9	7		4.1	1.5	ŗ	й	3.3	1.9	22
Use of Space	0.4	0.7	က		.4 2.1	-	·	0.3	0.5	7	L	0.7	4:	22
SURVIVORS' COMPARTMENT						1								Į.
Deck Surface	1.9	2.1	œ	2.3	3 2.1	7		1.6	1.6	1		1.9	1.9	22
Deck Plate Fasteners	3.4	2.2	ထပ	3.0	0 2.2	7		4.7	0.5	7		3.7	6.1	22
Bench Seats	0.4	0.5	∞	L <u>-</u>	1.3 1.7	7		6.0	1.5	7	L	8.0	1:3	22
HABLIABILITY														44
Hot Cups	0.3	0.5	8	9.0	6 1.0	7		2.4	2.4	7		1.0	1.7	22
Food and Beverage Storage	2.0	2.0	o¢:		0.1.9	7		1.0	1.8	7	أحسيا	1.4	1.9	22
Head	2.5	2.3	೧೮	2.7	7 2.3	7	i	2.1	2.0	7		2.5	2.1	22
Area to Rest	0.4	0.7	œ	0.1	1 0.4	7		0.3	0.5	7		0.3	9.0	22
HVAC System	0.3	0.5	6.	gamai.	1.4 2.1	7		6.0	1.5	7	ا	0.9	1.5	21
Weapons Storage	1.0	1.9	7	eard Page	1.0 1.9	7		2.2	2.3	9		1.4	2.0	20
Interior Insulation	2.1	2.3	œ	र्च	4.3 1.9	7		2.7	2.1	7		3.0	2.2	22
Scale: 0 = not a problem, ok as it is; not needed				X	Key: X	= mean								
i = slight problem: might like to have this added, low priority 2	d, low pr	iority		12 Z	SD = standard deviation N = number of crew members responding	d deviation	on member	e respons	ino enino					
3 = moderate problem; would like to have item added: moderate priority	added:			ΣŹ	Je:	Seaman apprentices and a Marine Science Technician, who serves as a crew member,	rentices who ser	and a M	larine Sc crew me	ience imber,	4			Were
man apprentices						reactions of particular events	<u>.</u>	in an in						ı

moderate priority included as Seamen. Fireman apprentices S = hig problem; definitely add this item; high priority

were included as Engineers.

Table H-4. Station Gloucester: Evaluation of problem or wish list items.

PROBI EM OR WISH LIST ITEM X SD N X								RA	RATING						٠.	
h b control of the first sequence of the fir	PROBLEM OR WISH LIST ITEM	υ'n.	eamen	na pandelikko Falliki dala palat (1919-1919)		Bost	svel lates			Eng	ineers			100	\$	1 ::
h b b b b b b b b b b b b b b b b b b b		×	SD	z		 - -	8	Z	1*	***	8	×	1~	1	2.0	Z
h the the the the the the the the the th	DECK											ľ		ľ	 	
1.	Aft Hatch	0.8		4		9'(0:1	6	F	7.4	11	7	0	!	┢	30
Hr. From Birt. 03 0.5 4 0.8 1.3 9 0.3 0.8 7 1.6 2.0 1.0 1.0 1.0 2.0 4 3.0 1.3 9 0.3 0.8 7 0.3 0.8 7 1.0 1.0 1.0 1.0 1.0 1.3 1.3 9 0.3 1.1 1.7 7 1.2 1.0 1.0 1.0 1.0 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3	Chocks	2.8		ব		8:	1.7	6	<u> </u>	=	1.5	7	<u> </u>	-		23
ht ht ht ht ht ht ht ht ht ht ht ht ht h	Bitts	0.8	1.0	4			2.1	9/		9.1	2.3	٢	<u></u>			20
htt that the	Tow Reel Tow Bitt		0.5	प		9.6	1.3	6		3.3	9.0	~	0	_	_	22
Port/Grating 1.5 1.3 4 1.9 1.8 9 30 1.7 7 22 1.7 I Pads 5.0 0.0 4 5.0 0.0 9 48 0.5 7 4.9 0.3 S Space 2.0 1.4 4 1.1 1.3 9 0.6 1.0 7 4.9 0.3 1.0	Spot Light	1.0	2.0	*4	()	3.0	1.3	6		3.1	1.7	7	2.	-		8
I Pads 5.0 6.0 4 8.0 9.0 9.4 4.8 0.5 7 4.9 0.3 x Space 5.0 0.0 4 3.1 1.5 9 2.1 2.1 7 4.9 1.1 1.3 9 0.6 1.0 7 1.1 1.3 1.4 9 1.1 1.2 7 1.1 1.3 1.4 9 1.1 1.2 7 1.1 1.3 1.4 1.3 7 1.1 1.3 1.4 9 1.1 1.2 7 1.1 1.3 1.4 9 1.4 1.3 7 1.1 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.4 1.3 1.3 1.4 1.3 1.3 1.4 1.3 1.3 1.3 1.3	Pickup Port/Grating	1.5	دن	4		[.9	1.0	٥,		<u> 0</u> 2	1.7	۲.	2.		 	ജ
Space 5.0 0.0 4 1.1 1.3 9 0.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Non-skid Pads	5.0	0.0	4	7 3	0:	0.0	6	L	8.	0.5	7	4.	<u> </u>		2
s Space 20 1.4 4 1.1 1.3 9 0.6 1.0 7 1.1 1.3 1.1 1.2 7 1.1 1.2 7 1.1 1.2 7 1.1 1.3 1.1 1.2 7 1.1 1.2 1.1 1.2 7 1.2 1.5 <th< td=""><td>Paint</td><td>5.0</td><td>0.0</td><td>4</td><td></td><td>3.1</td><td>1.5</td><td>5</td><td><u> </u></td><td>2.1</td><td>2.1</td><td>7</td><td>6.</td><td>_</td><td><u> </u></td><td> ജ</td></th<>	Paint	5.0	0.0	4		3.1	1.5	5	<u> </u>	2.1	2.1	7	6.	_	<u> </u>	 ജ
ds ds ds ds ds ds ds ds ds ds ds ds ds d	Aft Deck Space	2.0		4			1.3	6		9.6	1.0	7	***	_	<u></u>	22
olds 2.0 1.6 4 1.3 1.4 9 1.4 1.3 7 1.5 1.4 1.3 7 1.5 1.4 1.3 7 1.5 1.4 1.3 7 1.5 1.4 1.5 9 1.5 1.5 1.5 1.5 9 0.9 1.5 1	D-rings	1.3	6.1	4		1.2	1.6	6		1.1	1.2	7				20
atils ** 1.0 0.8 4 1.0 1.3 9 0.9 1.5 9 1.5 9 0.9 1.5 9 1.2 1.5 9 1.5 9 0.9 1.5 1.5 1.5 9 0.9 1.5 <	Handholds	2.0		4			1.4	6		4.1	1.3	7				8
rd Hand Railis 2.0 2.2 4 1.1 1.5 9 0.9 7 7 1.5 1.5 Hring Equipment 5.0 0.0 4 4.3 0.9 9 3.6 2.0 7 4.2 1.4 NE ROOM 1.8 2.2 4 1.4 1.7 9 2.9 1.3 7 2.0 1.7 1.4 Plates 1.0 2.0 4 1.4 1.7 9 2.9 1.3 7 2.0 1.7 Sox 1.0 2.0 4 0.2 0.4 9 2.7 2.4 7 2.0 1.4 Pump Indicator 2.5 2.9 4 1.9 2.4 9 2.7 2.4 7 2.3 2.4 Pump Indicator 0.3 0.5 4 1.7 8 3.3 1.8 7 2.2 2.0 1.4 Instance (Checks) 1.5 1.7 4 1	į	1.0	0.8	,:jt		1.0	1.3	6		9.6	1.5	7	yeard		 	20
NEROOM 4 4.3 6.9 9 3.6 2.0 7 4.2 1.4 NEROOM ABROOM 7 6.2 7 <th< td=""><td>Forward Hand Rails</td><td></td><td>2.2</td><td>4</td><td></td><td></td><td>1.5</td><td>6</td><td></td><td>9.6</td><td>6.0</td><td>7</td><td>_</td><td></td><td></td><td>2</td></th<>	Forward Hand Rails		2.2	4			1.5	6		9.6	6.0	7	_			2
VE ROOM Plates 1.8 2.2 4 1.4 1.7 9 2.9 1.3 7 2.0 1.7 Sox 1.0 2.0 4 0.2 0.4 9 0.7 1.9 7 0.6 1.4 Pump Indicator 2.5 2.9 4 1.9 2.4 9 2.7 2.4 7 2.3 2.4 rainer (Checks) 0.3 0.5 4 0.3 0.5 9 1.7 2.0 7 0.8 1.4 rainer (Checks) 1.8 2.4 4 1.4 1.7 8 3.3 1.8 7 2.2 2.0 rte Hatch 1.5 1.7 4 3.3 1.7 9 3.4 1.3 7 3.0 1.7	Firefighting Equipment		0.0	4	71	4.3	6.0	6		3.6	2.0	7	4	_	_	50
Plates 1.8 2.2 4 1.4 1.7 9 2.9 1.3 7 2.0 1.7 Sox 1.0 2.0 4 0.2 0.4 9 0.7 1.9 7 0.6 1.4 Pump Indicator 2.5 2.9 4 1.9 2.4 9 2.7 2.4 7 2.3 2.4 rainer (Checks) 0.3 0.5 4 0.3 0.5 9 1.7 2.0 7 0.8 1.4 rainer (Checks) 1.8 2.4 4 1.7 8 3.3 1.8 7 2.2 2.0 rte Hatch 1.5 1.7 4 3.3 1.7 9 3.4 1.3 7 3.0 1.7	ENGINE ROOM										A Section of					
Sox 1.0 2.0 4 0.2 0.4 9 0.7 1.9 7 0.6 1.4 Pump Indicator 2.5 2.9 4 1.9 2.4 9 2.7 2.4 7 2.3 2.4 rainer (Checks) 0.3 0.5 4 0.3 0.5 9 1.7 2.0 7 0.8 1.4 rainer (Checks) 1.8 2.4 4 1.4 1.7 8 3.3 1.8 7 2.2 2.0 rte Hatch 1.5 1.7 4 3.3 1.7 9 3.4 1.3 7 3.0 1.7	Deck Plates	8.1	2.2	4		4.1	1.7	6		6.5	1.3	7	2.			20
Pump Indicator 2.5 2.9 4 1.9 2.4 9 2.7 2.4 7 2.3 2.4 Pump Indicator 0.3 0.5 4 0.3 0.5 9 1.7 2.0 7 0.8 1.4 rainer (Checks) 1.8 2.4 4 1.7 8 3.3 1.8 7 2.2 2.0 rte Hatch 1.5 1.7 4 3.3 1.7 9 34 1.3 7 3.0 1.7	Tool Box	0.1	2.0	4		2	0.4	6		7.0	1.9	7	0			20
rainer (Checks) 0.3 0.5 4 0.3 0.5 9 1.7 2.0 7 0.8 1.4 rite Hatch 1.5 1.7 4 3.3 1.7 9 3.4 1.3 7 2.2 2.0	Bilge Pump Indicator		2.9	4		6.	2.4	6		2.7	2.4	7	2			20
1.8 2.4 4 1.4 1.7 8 3.3 1.8 7 2.2 2.0 1.5 1.7 4 3.3 1.7 9 34 1.3 7 3.0 1.7	Space		0.5	4		9.3	0.5	6		1.7	2.0	7	0			20
1.5 1.7 4 3.3 1.7 9 34 1.3 7 3.0 1.7	Sea Strainer (Checks)		2.4	4		4.	1.7	∞c		3.3	1.8	7	2.			20
	Lazarette Hatch		1.7	4		3.3	1.7	6			1.3	7	33		-	20

Table H-4. Station Gloucester: Evaluation of problem or wish list items.

						Z.	RATING							
PROBLEM OR WISH LIST ITEM	(2)	Seamen		A	Boatswaln's Mates	, K		33	Engineers				Station	
	İΧ	SD	z	×	SD	z	J	òς	B	72		×	a	N
Fuei Capacity	8.1	2.4	Þ	2.8	1.2	6	<u> </u>	3.0	1.2	7	<u> </u>	2.7	1.5	20
FLYING BRIDGE												1		v.
External Speakers	1.5	2.4	4	1.7	1.4	6		1.3	6.1	7		1.5	1.7	20
Radar Protective Door	1.3	1.9	4	-:	2.0	6		0.7	1.3	7		1.0	1.7	20
Microphone Box	2.0	2.4	4	3.3	1.2	9		1.7	1.9	7	L	2.5	8.1	20
Steering/Throttle	4.0	1.4	4	4.2	0.8	6		3.7	1.8	7	L	4.0	1.3	20
Crew Member Seats	1.3	2.5	4	1.0	1.1	6		6.0	0.0	7	L.,	1.0	1.3	20
Communication Equipment	4.3	0.1	4	3.1	1.5	6		2.7	2.1	7		3.2	1.7	20
Datum Point Marker	2.0	1.8	4	1.6	1.9	6		2.1	1.8	7		1.9	1.8	20
Protection from Environment	2.5	2.1	4	2.7	1.6	ó		2.1	1.0	7		2.5	1.5	20
Instrument Station	0.5	6.7	2	1.8	1.8	6		1.3	1.3	Ĺ	-	1.4	1.5	18
ENCLOSED BRIDGE									7	4				
Crew Member Seats	3.8	2.5	4	3.8	1.4	6		3.7	1.4	7		3.8	1.6	20
Defroster (HVAC)	0.8	i.5	4	1.4	1.8	6		0.4	0.8	7	لــــــا	1.0	1.5	20
Forward Visibility	0.5	9.0	4	1.7		6		0.3	0.5	œ		1.0	1.1	20
Space	2.8	2.2	4	2.1	1.5	6		2.7	2.0	7		2.5	1.8	20
Electronics	3.3	1.3	4	3.1	6.0	6		2.1	1.8	7		2.8	1.4	20
GPS	3.3	2.4	4	4.7	0.8	7		3.4	1.9	7		3.9	1.7	20
Coxswains' Chairs	0.5	1.0	4	1.4	1.6	6		0.0	0.0	7		0.8	1.3	20
Navigation Area	3.3	1.3	4	2.6	2.2	6		2.1	1.9	7		2.6	1.9	20
PORWARD COMPARTMENT						v		, a,						
HVAC	∞. 	2.4	4	3.2	2.0	6		3.1	2.0	7		2.9	2.0	20

Table II.4. Station Gloucester: Evaluation of problem or wish list items.

							1	i			ŀ	ľ			
					,		2	KALING	4						
PROBLEM OR WISH LIST ITEM	<i>•</i>	Seamen				T. T.		7,3	4		-4				
	bκ	SD	z		1×	B	E	Å.	5 2	8	F		W.	É	Z.
Deck Plates	2.8	2.1	4		2.2	6:1	6	<u>.</u>	6.1	1.8	7	31	2.2	8:1	82
Use of Space	0.0	0.0	4	A	0.2	0.7	6	L	0.0	0.0	-	ـــــ	0.1	4.0	70
SURVIVORS' COMPARTMENT										1.0		1		E	2.0
Deck Surface	4.3	J.1	4		1.8	1.9	6		2.0	1.4	7		2.4	8:	20
Deck Plate Fasteners	3.8	61	Ą	L	2.7	1.8	6	L		2.3	7		3.1	1.9	20
Berch Seats		0.1	4		<u>«</u>	1.2	6	\ <u></u>	<u></u>	2.0	7	L	1.7	1.4	82
HABILITY		Av.	320 4			1		3			Ì,				100
Hot Cups	2.3	2.6	*		2.6	2.3	6	_	3.0	2.3	7		2.7	2.3	8
Food and Beverage Storage	2.3	2.6	4	L	3.7	2.2	ó		3.1	1.8	7	L	3.2	2.1	20
22	2.3	2.6	4		1.0	1.6	6	<u> </u>	1.6	1.7	7	L	1.5	8.	8
Area to Rest	0.1	4.	43		0.4	0.5	6		1.4	1.4	7	L,	6.0	1.1	20
HVAC System	0.0	0.0	4		0.7	1.1	6	L_,	0.7	1.1		i	9.0	0.1	20
Weapons Storage	2.5	1.7	4		3.1	2.3	6		3.3	2.1	7	L	3.1	2.0	92
Interior Insulation	3.8	2.5	4		4.1	1.7	6	L	4.0	1.5	7	L	4.0	1.7	8
Scale 0 = not a problem, ok as it is; not needed i = slight problem, might like to have this	s added.	s added; low priority	<u>ś</u>		Key:		X = mean SD = standard deviation	ard dev	ation						
2 moderate problem; would like to have item added: moderate priority	e item ad	deď:			Note:	•	N = number of crew members responding Seaman apprentices and a Marine Science Technician, who serves as a crew member,	a of cre arentices who se	w memi	Aarine S	onding cience sember,				
4 $\delta = \log problem;$ definitely add this item;	high priority	onty				* *	were included as Seamen. Fireman apprentices were included as Engineers.	S S S S S S S S S S S S S S S S S S S	eamen. ngineers	Fireman	apprent	iices			

Table H-5. Station Cape May: Evaluation of problem or wish list items.

							Z	RATING	-A					
			·	-							ŀ			
PROBLEM OR WISH LIST ITEM	<i>S</i> 3	Seamen			Bo	Boatswain's Mates		e de Alberto Laborito des	<u>ම්</u>	Engineers			Station	
	×	as	Z	L	×	as	Z		×	B	Z	×	S	Z
DECK														
Aft Hatch	0.2	0.4	12		0.3	8.0	14		0.7	=	6	0.3	0.8	35
Chocks	1.7	1.7	13	L	1.6	1.6	14		1.8	2.0	6	=	1.7	35
Bitts	0.8	1.4	12	لــــا	1.4	1.3	14		1.0	1.4	6		1.3	35
Tow Reel/Fow Bitt	0.9	1.6	13		9.0	1.2	14		1.0	1.8	6	0.8	15	35
Spot Light	2.5	1.9	12	Ļ	2.5	2.2	14		1.7	1.7	6	2.3	2.0	35
Pickup Port/Grating	1.8	1.7	12		1.3	1.5	14	A.,	2.3	2.1	6	3.1	1.9	35
Non-skid Pads	4.1	1.2	12	<u></u>	2.7	2.0	14		2.3	2.2	6	3.1	5.1	35
Paint	1.9	2.0	12	l	2.1	1.9	14		1.1	1.8	6	8.	-	35
Aft Deck Space	1.3	1.4	12	l	60	1.3	14		6.4	1.3	۵	0.0	-	35
D-nngs	2.3	2.3	12	L	1.8	8.1	14		0.7	6.0	6	1.7	1.9	35
Handholds	1.4	2.1	12	l	1.6	2.0	14		1.7	1.9	6	1.5	2.0	35
Rub Raits	0.7	1.5	12	L	1.4	1.6	14	_	1.3	×.	6	-	1.6	35
Forward Hand Rails	1.2	1.5	-	L	6.0	1.6	14	<u> </u>	1.4	1.7	6		1.6	35
Firefighting Equipment	4.5	0.5	12	<u></u>	4.0	4.1	14	•	4.6	0.0	6	4.3		35
ENGINE ROOM										2; 2;		Part .		
Deck Plates	1.2	1.9	12		3.2	1.6	13		4.6	0.7	6	2.5	2.0	34
Тоо! Вэх	1.2	1.9	12	<u></u>	1.9	2.0	13		2.3	2.2	6	1.8 8.1	2.0	34
Bilge Pump Indicator	0.3	0.7	12		8.1	2.0	13	-	8.1	1.7	6	-	-	-

Table H-5. Station Cape May: Evaluation of problem or wish list items.

FROBLEM OR WISH LIST ITEM Seamen Action Register Register Register Spation Station Stat								RA.	RATING					260 260		
LEM OR WISH LIST ITEM Seamen Matee N Sp N N N N N N N N N N N N					r	*			-			H	L			T
Agacity Agacity <t< th=""><th>PROBLEM OR WISH LIST ITEM</th><th>'O</th><th>eamen</th><th></th><th>and the same of the law is a local</th><th>808</th><th>itsweln Mates</th><th></th><th></th><th>6</th><th>gineen</th><th></th><th></th><th></th><th></th><th>1,247/30 c</th></t<>	PROBLEM OR WISH LIST ITEM	'O	eamen		and the same of the law is a local	808	itsweln Mates			6	gineen					1,247/30 c
IG BRILGGB 13 12 17 22 19 11 1.5 9 12 1 al Speakers 14 18 12 22 20 14 16 18 1 Frobective Door 19 12 22 21 20 14 16 12 18 1 Frobective Door 19 12 22 21 20 14 16 12 18 1 16 18 1 ReThroute Box 15 12 12 26 22 14 17 12 26 22 14 17 12 26 22 14 10 12 12 18 17 12 16 16 17 18 18 17 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 18 1		×	SD	Z		×	SD	z		tx	æ	z	x			z
Speakers 1.4 1.8 1.2 2.2 2.0 14 1.6 1.8 1.9	Fuel Capacity	0.7		12	1	1.7	2.2	13	L	1.1	5.1	6			}	34
Protective Door 1.4 1.8 1.2 2.2 2.0 14 1.6 1.8 1.9 1.8 1.9	FLYING BRIDGE													**************************************	.	
Protective Door 19 19 12 2.1 2.0 14 1.6 9 1.9 1	External Speakers	1.4	1.8	12		2.2	2.0	14		1.6	1.8	6	<u>-</u>	<u> </u>	-	33
optione Box 1.5 2.0 12 2.6 2.2 14 1.7 2.1 9 2.0 2.0 2.2 14 1.7 2.0 2.2 14 1.0 1.5 9 2.0 2.0 2.2 9 1.5 1 <	Radar Protective Door	1.9	1.9	12		2.1	2.0	14	L	4.1	9.1	6		├—	┼	35
g/Throttle 14 1.6 12 2.6 2.2 14 1.6 1.5 1.6 1.7 1.8 1.7 1.2 1.0 1.4 1.0 1.5 9 1.5 1 <td>Microphone Box</td> <td>1.5</td> <td>2.0</td> <td>12</td> <td>Li</td> <td>2.6</td> <td>2.2</td> <td>14</td> <td>L,,,,,</td> <td>1.7</td> <td>2.1</td> <td>6</td> <td>2</td> <td>├</td> <td></td> <td>35</td>	Microphone Box	1.5	2.0	12	Li	2.6	2.2	14	L,,,,,	1.7	2.1	6	2	├		35
Wember Seats 1.8 1.7 12 1.0 1.4 14 20 2.2 9 1.5 1 Point Marker 2.1 2.1 1.2 1.2 1.4 1.5 14 1.1 1.8 9 2.1 2.1 2.2 1.2 1.1 1.8 9 1.1 1.8 9 1.5 1.1 1.8 9 1.1 1.8 9 1.5 1.1 1.8 9 1.5 1.1 1.8 9 1.5 1.1 1.1 1.8 9 1.5 1.1 1.2 2.1 1.2 1.4 1.1 1.5 1.4 1.1 1.5 1.4 1.1 1.5 1.4 1.1 1.5 1.2 2.1	Steering/Throttle	4.1	1.6	12		2.6	2.2	14	L	1.0	1.5	6	_		├	35
vnication Equipment 2.1 2.1 12 2.4 2.2 14 1.7 1.8 9 2.1 2.1 2.2 1.1 1.5 14 1.1 1.5 14 1.1 1.5 14 1.1 1.5 14 1.1 1.5 14 1.1 1.5 14 1.1 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.1 1.5 1.4 1.1 1.5 1.5 1.5 1.4 1.1 1.5	Crew Member Seats	1.8	1.7	12		1.0	1.4	14		2.0	2.2	6		-	}	35
Point Marker 2.2 2.2 1.2 1.4 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.5 14 1.7 9 1.4 1	Communication Equipment	2.1	2.1	12		2.4	2.2	14		1.7	1.8	6	7	2.	├	35
ion from Environment 1.6 1.6 1.2 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.5 1.4 1.7 9 1.4 1.4 1.5 1.2 2.1 2.0 1.4 1.7 9 1.4 1.4 1.5 1.2 2.5 2.0 1.4 1.7 9 1.4 1.4 1.5 1.5 2.0 1.4 1.8 1.8 9 1.4 1.4 1.5 1.5 1.4 1.1 1.3 9 1.4 1.5 1.4 1.1 1.3 9 1.4 1.5 1.5 1.5 1.4 1.1 1.3 9 1.4 1.1 1.5 1.5 1.5 1.4 1.1 1.5 1.5 1.5 1.4 1.1 1.5 1.5 1.5 1.4 1.1 1.5 1.5 1.5 1.5 1.5 1.5<	Datum Point Marker	2.2	2.2	12		1.1	1.5	14	l	1.1	1.5	6		_	├	35
OSED BRIDGE 2.1 2.1 2.0 14 1.0 1.7 9 1.4 1.7 9 1.4 1.7 9 1.4 1.7 9 1.4 1.7 9 1.4 1.4 1.2 2.1 2.0 2.0 1.4 1.4 1.2 2.5 2.0 1.4 3.0 2.0 9 2.0	Protection from Environment	1.6	1.6	12		1.4	1.5	14	L	9.0	6.0	9				35
Member Seais 2.5 2.0 14 3.0 2.0 9 2.6 2 Member Seais 2.3 2.1 12 2.5 2.0 14 3.0 2.0 9 2.6 2 ter (HVAC) 0.9 1.6 12 1.6 1.0 14 1.8 1.8 1.8 1.4 1.4 1.8 9 1.4 1 rd Visibility 1.4 1.6 12 0.6 0.9 14 0.4 1.0 9 0.8 1 rd Visibility 1.4 1.5 12 1.8 1.5 14 1.1 1.3 9 1.5 1 rd Visibility 1.5 2.0 1.5 1.5 1.5 1.5 1.6 1.7 1.8 1.1 1.1 1.3 9 1.4 1.1 1.5 1.5 1.2 2.0 1.7 1.9 1.7 1.9 1.7 1.1 1.1 1.1 1.1	Instrument Station	6.0		12		2.1	2.0	14		1.0	1.7	6		_	├	35
Member Seais 2.3 2.1 12 2.5 2.0 14 3.0 2.0 9 2.6 2.6 2.0 14 3.0 2.0 9 2.6 2.6 2.0 14 1.8 1.8 9 1.4 1 1.4 1.6 12 0.6 0.9 14 0.4 1.0 9 0.8 1 1.4 1 1.2 1.4 1.5 1.8 1.4 1.1 1.3 9 1.4 1<	ENCLOSED BRIDGE			,											37	.5
ter (HVAC) 0.9 1.6 12 1.6 0.0 14 1.8 1.8 9 1.4 1.4 1.1 1.2 1.2 1.2 1.4 1.1 1.2 1.2 1.2 1.4 1.1 1.2 1.2 1.2 1.4 1.1 1.2 1.2 1.2 1.2 1.4 1.1 1.2 1.2 1.2 1.4 1.1 1.2 1.2 1.2 1.2 1.4 1.1 1.2 1.2 1.2 1.2 1.4 1.1 1.2 1.2 1.2 1.2 1.3 1.4 1.1 1.2 1.2 1.2 1.3 1.4 1.1 1.2 1.2 1.2 1.2 1.3 1.4 1.1 1.2 1.2 1.2 1.2 1.3 1.4 1.1 1.2 1.2 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3 1.3	Crew Member Seais	2.3	7.1	12		2.5	2.0	14		3.0	2.0	6	2.	 	} -	35
rd Visibility 1.4 1.6 12 0.6 0.9 14 0.4 1.0 9 0.8 1 0.8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Defroster (HVAC)	6.0	1.6	12	,	1.6	2.0	14		1.8	1.8	6		_		35
nics 1.4 1.5 12 12 14 1.5 14 1.5 14 1.1 1.3 9 1.5 1 nics 1.5 2.0 12 1.5 14 1.1 1.5 9 1.4 1 nicon Area 1.8 1.5 12 2.1 1.8 14 0.6 1.7 9 1.7 1 nicon Area 1.8 1.5 12 2.1 1.8 14 10 1.4 9 1.7 1	Forward Visibility	4.1	1.6	12	لـــــ	9.0	6.0	14		0.4	1.0	6	0		-	35
ronics 1.5 2.0 12 1.5 1.5 14 1.1 1.5 9 1.4 1 wains' Chairs 1.9 2.0 12 2.6 2.2 14 0.6 1.7 9 1.9 2 gation Area 1.8 1.5 12 1.8 14 10 1.4 9 1.7 1	Spe	4.1	1.5	12		1.8	1.5	14		1.1	1.3	6		_		35
wains' Chairs 1.9 2.0 1.2 1.6 2.2 14 0.6 1.7 9 1.9 gation Area 1.8 1.5 1.2 1.8 1.4 1.0 1.4 9 1.7	Electronics	1.5	2.0	12	l	1.5	1.5	14		1.1	1.5	6		_		35
rs 1.9 2.2 12 1.8 1.9 14 1.2 1.5 9 1.7 1.7 1.8 1.8 14 1.0 1.4 9 1.7	GPS	2.0	2.0	12	LI	2.6	2.2	14		9.0	1.7	6				35
1.8 1.5 12 2.1 1.8 14 1.0 1.4 9 1.7	Coxswains' Chairs	1.9	2.2	12		8.1	6.1	14		1.2		6				35
	Navigation Area	∞. 	1.5	12		2.1	1.8	4		1.0	1.4	6		\vdash		35

Table H-5. Station Cape May: Evaluation of problem or wish list items.

							RA.	RATING			.at				
PROBLEM OR WISH LIST ITEM	<i></i>	Seamen			Bog	Boatswain's Mates	.		. 5	Engineers			3	Stattlen	
	t×	SD	z	<u></u>	×	SD	Z	· eng	×	S	Z	1 ^	×	OS	Z
FORWARD COMPARTMENT															
HVAC	1.3	8.1	12		2.3	1.9	14	-	2.6	2.4	δ	2	2.0	2.0	35
Deck Plates	1.8	1.9	12	<u></u>	2.4	1.9	14	 .	2.8	2.2	6	12	2.3	1.9	35
Use of Space	0.5	1.2	12	L	0.0	0.0	14	<u> </u>	0.3	1.0	6		0.3	6.0	35
SURVIVORS' COMPARTMENT					33	**								1560. 173	
Deck Surface	2.8	6.1	12		1.9	2.0	14		6.0	1.5	6		1.9	6.1	35
Deck Plate Fasteners	2.1	2.0	12		2.6	2.2	14	L	2.7	2.2	6	7	2.4	2.1	35
Bench Seats	1.1	1.5	12		1.0	1.7	14	L	0.1	0.3	6		0.8	1.4	35
HABITABILITY											14				73° 177
Hot Cups	0.4	8.0	12		0.1	0.4	14		0.3	6.7	6	0	0.3	9.0	35
Food and Beverage Storage	2.8	2.2	12		1.8	2.1	14		1.4	1.7	6	7	2.1	2.1	35
Head	2.3	2.2	12	<u> </u>	1.9	2.1	14		1.2	1.9	6		1.9	2.1	35
Area to Rest	1.5	1.9	12		1.5	1.7	14		0.0	0.0	6		1.1	1.7	35
HVAC System	1.7	1.9	12		2.8	1.9	14		1.9	2.1	6	[2.2	2.0	35
Weapons Storage	33	2.2	12		2.1	2.2	14		2.0	2.0	6	[7]	2.5	2.1	35
Interior Insulation	2.5	1.9	12		2.1	2.3	14		2.0	1.7	6		2.2	2.0	35
Costs. O a not a strategies. Ob ac it to not mandad	,				7	×	-								

X = mean	SD = standard deviation	N = number of crew members responding	Seaman apprentices and a Marine Science	Technician, who serves as a crew member,	were included as Seamen. Fireman apprentices	were included as Engineers.	
Key			Note:				
Scale: 0 = not a problem; ok as it is; not needed	i = slight problem, might like to have this added; low priority	en a	5 = moderate problem; would like to have item added;	moderate priority	~3°	5 = big problem; definitely add this item; high priority	
Scale							